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#### Abstract

Between 1977 and 1981, the Basic Skills Component of Research for Better Schools worked with education agencies to develop a research-based approach to improving basic skills instruction and student achievement. Called Achievement Directed Leadership (ADL), the approach was field tested extensively in three school districts during the 1981-82 school year. It is noted that these tests provided persuasive evidence that educators could be trained to use research findings to monitor and manage critical classroom processes, and further eviderice strongly suggested that student achievement improved according to the degree of $A D L$ impler tation. A key element in the project was the development of a mjerocomputer program to facilitate the collection and management of quantitative data by educators for their instructional decisic. making. The introduction to this report provides an overview of the investigation, a description of $A D L$, and a discussion of the use of microcomputers in schools. The methodology of the project is then presented, including the plan of investigation and the procedure. The section on the conduct of the investigation and fincings of the project describes the design of the microcomputer-based support system for the ADL; the component's efforts to modify commercially available software to assist educators with the management of ADL; and the development and evaluation of an in-house software program, CONFERENCE. Finally, the conclusion addresses the technical feasibility and advantages for users in using the microcomputer for ADL data-based decision making. Included in the appendices are data collection forms, the principal/teacher conference form, and the CONFERENCE program code. (JLB)


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# AN INVESTIGATION INTO THE FEASIBILITY OF <br> USING COMPUTER TECHNOLOGY IN ACHIEVEMENT DIRECTED LEADERSHIP 

Submitted to the
NATIONAL INSTITUTE OF EDUCATION
by

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Basic Skills Component Research for Better Schools, Inc. 444 North Third Street Philadelphia, Pennsylvania 19123
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August 1985

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## ACKNOWLEDGEMENTS

This report describes the experiences of the Basic Skills Component of Research for Better Schools, Inc. (RBS) in investigating the feasibility of using the microcomputer in Achfevement Directed Leadership (ADL), a program of instructional improvement. ADL was developed at RBS under the leadership of David Helms and Anna Graeber. They both provided essential guidance during the conceptualization and implementation of this investigation.

Janice Kruse was the sustaining factor throughout this investigation of the use of the microcomputer in ADL--she guided the software development, conducted field trials, and prepared drafts of the support materials and an early version of this report. Marge Connelly, an RBS programer, supplied mucn of the rechnical knowledge for the investigation, and led the development of the data-based management system. She also wrote the final computer program, CONFERENCE. Without Marge's programing skill and problem-solving ability, there would not have been a viable product on which to report.

We appreciate the efforts of Francine Beyer, Fran Shelkin and Sylvia McCall. Francine wrote the final report; Fran and Sylvia typed the report and support materials.

We would like to thank the educators in the Pennsylvania School District for their feedback on our various computer programs. Their reactions succeeded in bringing us back to earth when we became too idealistic.

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## INTRODUCTION

This report is divided into four parts--introduction, methodology, conduct of investigation and conclusions. The three sections of tive introduction discuss (1) an overview of the investigation, (2) the instructional improvement program called Achievement Directed Leadership, and (3) the use of microcomputer technology in schocls.

## Overview

Between 1977 and 1981 the Basic Skills Component (BSC) worked with a number of cooperating education agencies to develop a research-based approach to improving basic skills instruction and student achievement. The approach, which came to be knoim as Achievement Directed Leadership (ADL), was field tested intensively in three school districts during the 1981-82 school year. The field test provided persuasive evidence that educators could be trained to use research findings to monitor and manage critical classroom processes. Further evidence strongly suggested that student achievement improved according to the degree of ADL implementation.

However, BSC also learned that educators were not generally accustomed to using quantitative data for instructional decision making, nor were they comfortable or adept at collecting and managing such data. We therefore reasoned that, if the use of a microcomputer could make the storage and manipulation of ADL data nore efficient and accurate and reduce paperwork, then educators might be more willing to use quantitative data in their decision making. BSC hypothesized that computer technology could facilitate the use of AnL--and a more effective use of ADL would mean more efficient classroom instruction and increased student achfevement.

Achievement Directed Leadership (ADL) has two main features, ar instructional leadership plan and a training/implementation program designed for its installation. Only the leadership plan is of interest here.

The leadership plan specifies roles and functions for teachers and administrators to he?p them coordinate their efforts to achieve and maintain instructionally effective classrooms (see Figure 1). The main thrust of the plan is cooperative, effective monitoring and managing of critical conditions and processes that affect the classroom performance of students and educa-tors-with ultimate impact on student achievement.


Figure 1. The ADL ieadership plan.

ADL calls for use of a four-step improvement cycle to help educators collect data on the critical variables and identify and exploit opportunities for improvement (see Figure 2).


Figure 2. Fcur-step improvement cycle.

The linch pin in the instructional improvement process is the principal. The principal is continually informed of classroom conditions through classroom visits and the review of teachers' instructional plans. During regularly scheduled principal/teacher conferences, the principal assists teachers in working through the improvement cycle. The primary outcome of the principal/ teacher conference is a plan to address opportunities for improvement which were jointly identified during the conference. The principal subsequently shares teachers' improvement plans and progress with district leadership, during superintendent/principal conferences. During these conferences the principal can enlist central office time, resources, and inservice support for teachers' improvement efforts. Conference procedures and forms have been developed to structure and facilitate both the principal/teacher conference and the superintendent/principal conference.

It is common practice for schools to use microcomputers both as administrative and instructional tools. Administrative uses include word processing and scheduling. In addition to instruction in computer programing and computer literacy, microcomputers are used in the classroom as an aid to instruction. The use of microcomputers as an instructional aid can be divided into two general categories: Computer-Assisted Instruction (CAI), using the microcomputer to present instruction and/or to interact with a student to enhance learning (e.g., tutorial systems, drill exercises); and ComputerManaged Instruction (CMI), using the microcomputer for record keeping, diagnostic testing and scoring, and prescribing.

The proposed use of the microcomputer to facilitate educators' use of Achjevement Directed Leadership (ADL) would differ from both CAI and CMI systems. In these systems the computer manages individual student progress (through a computerized or non-computerized curriculum) by continually informing the student as to what steps should be taken next. In ADL:

- the teacher and principal, not the computer program, make decisions based on the status of critical classrcom variables
- the critical variables include ciassroom management variables, in addition to instructional variables
- the decisions made are either for an entire class or for instructional groups within the class, not for individual students
- the instructional decision making involves matching identified opportunities for improvement with research-based improvement strategies co be used by teachers.
To the best of our knowledge, at the time of this investigation there was no existing system that would guide educators in their instructional decision making according to assessments of various classroom conditions and processes.

The specific goals of this project were: (1) to investigate the feasibility of using the computer to facilitate the implementation of Achievement Directed Leadership; and (2) to determine the advantages of the microcomputerdriven system; that is, will it reduce onerous tasks (i.e., record keeping, calculations, projections) and thus improve educators' motivation to use quantitative data in instructional decision making? This methodology section presents both the plan and procedure for conducting the investigation.

## Plan of Investigation

The component's plan to meet the two above stated goals had three steps.

- design a microcomputer-based support system that would facilitate educators' use of Achievement Directed Leadership
- Locate and/or develop software to implement the microcomputer support role, with assistance from local educators
- evaluate the feasibility and advantages of the microcomputerbased suppori system.

The scope of this investigation included these three steps, with technical feasibility at the school level being the major focus.

## Procedure

This section describes the procedures the Basic Skills Component (BSC) used to carry out the plan of the investigation. The implementation of these procedures is discussed in the next part of the report, conduct of investigation and findings.

BSC staff, with assistance from an RBS computer programmer, studied the Apple If Plus computer's capabilities in terms of Achievement Directed Leadership (ADL) processes and goals in order to design a microcomputer support system that was both realistic and faithful to the ADL model. BSC decided to work with the Apple II Plus system with 64 K since, at the time, this system was the one found in many schools.

The procedure for software modification/development and evaluation was as

## follows:

- research available software and solicit opinions of RBS programmer and outside consultants in order to identify commercially available software which could be modified to facilitate research-based decision making at the classroom level
- if software modification is not feasible, work with RBS programmer to attempt development of our own program and support materials (User's Guide, manual, data entry forms)
- have RBS staff participate in a pre-field trial with modified or new software (ie., hands-on experience using simulated data); revise software based on informal feedback on ease of program use and advantages/disadvantages over traditional methods of monitoring ADL variables
- conduct a field trial of modified or new software; provide educators with hands-on experience (using simulated data) or a BSC demonstration, followed by a survey (see Appendix A for data collection forms) and/or unstructured interview; revise software based on survey/ interview responses
- conduct additional field trials and revisions, if necessary.

Educators participating in the field trials were:

- teachers and administrators from a Pennsylvania middle school currently working with the BSC to develop a secondary version of 'ADL
- elementary school principals currently implementing ADL in the same Pennsylvania district
- curriculum coordinators from the same Pennsylvania district.

This chapter describes the conceptualization of a microcomputer-based support system to facilitate Achievement Directed Leadership (ADL), the component's efforts to modify conmercially available software to assist educators with the managrment of $A D L$ 's critical variables, and the subsequent development of new software, in conjunction with a commercially developed data-based management system.

## Design of Micrcomputer-Based Support System

Figure 3 shows the microcomputer-based support system the BSC designed to facilitate ADL. It diagrams how the various levels of a school district might use the computer for instructional decision maicing. In step l, long-term instructional plans and classroom data are collected and entered into the microcomputer, and class files are updated. When the principal and teacher meet for a supervisory conference (step 2), they run a conference program which analyzes the data for each classroom variable and compares the class data to research findings and/or instructional goals in order to diagnose opportunities for improvement and assess progress. The microcomputer prints out and stores a record of the data and analyses, along with strategies for developing or altering instructional plans. The teacher, with the support of the principal, implements the strategies agreed upon and the cycle begins anew.

The diagram also shows that, ideally, all individual teacher reports are incorporated into a building level summary, and all building reports are incorporated into a district summary. In step 3, principals or central office

Figure 3. A computer-based supurt svstem to facilitate ADL.
staff then use these sumaries to identify commen opportunities for improving instruction across teachers and across schools, and to plan inservice accoraingly (step 4).

## Review/Modify and Evaluate Existing Software

We orginialiy assumed that the ways in which the microcomputer could best assist with management of Achievement Directed Leadership's (ADL's) critical variables would vary for principal and teacher. For teachers, the microcomputer could help them develop and update long-term instructional plans, which include data on a class' prior learning, success on daily work and mastery of skilis on unit tests and information on the content of the year-end achfevement test. For principals, the computer could provide them with a summary of this information, along with the class' average student engaged time, during the principal/teacher conference. These data could then be compared to research findings and teacher goals. When opportunities for improvement are identified, the principal and teacher could plan and implement change strategies. Thus, we set out $t$ develop separate principal and teacher programs.

The BSC selected VisiSeries integrated software (Visifile and ViciCalc) because it"offered the possibility for creating interfacing principal and teacher programs which could be used to manage ADi data. Using Visifile, two versions of long-term instructional planning programs were developed, varying in amount of curriculum detail. Both programs were demonstrated to five middle school teachers and three curriculum coordinators in the Pennsylvania district. The educators felt that the programs could be useful, particularly the shorter version, but six of the eight felt that the programs would not make their own work any easier. Also, these educators were not very conmitted
to the concept of long range instructional planning--and the potential of computer support for the planning process did not increase their commitment. In light of the fact that these initial programs did not appear to make teachers' planning and monitoring tasks less onerous or time consuming, we abandoned this line of investigation. Additiond support for this decision resulted from our review of VisiCalc to create an interfacing program for principals. VisiCalc's "chart" format did not seem to offer a way of summarizing classroom data that was more efficient than ADL's principal/teacher conference form. Instead, we attempted to develop our own program which more closely followed our original conceptualization--a program that the principal and teacher could use together, during the principal/teacher participatory supervision conference, to assist with the management of classroom data.

## Software Development and Evaluarion

The design for the principal/teacher conference program was based on our initial conceptualization of a computer-based support system (see Figure 3, p. 7) and was patterned after Achievement Directed Leadership's (ADL's) principal/teacher conference form (see Appendix B). The conference form records information on student variables which are highly related to student achievement--student engaged time, prior learning, coverage of criterion content and academic performance--along with identified opportunities for improvement and selected improvement strategies.

The first program BSC developed calculated and analyzed student engaged time. The program was demonstrated to six middle school teachers and six administrators from the Pennsylvania district and was positively received--all felt it was easy to use and 75 percent felt it would help them implement ADL;
the other 25 percent were uncertain. As a result of this feedback, we expanded the program to include $A D L$ 's other classroom variables. The resulting program, CONFERENCE, presented questions about a class' status on the $A D L$ variables which were to be answered during the principal/teacher conference. The program then compared the data entered for each variable to corresponding research standarts and listed opportunities for improvement. Fourteen elementary principals in the Pennsylvania district previewed CONFERENCE and the accompanying User's Guide. The majority ( 86 percent) of the educators felt CONFERENCE would be very useful, and all found the program and User's Guide easy to use. However, upon closer consideration, BSC realized that CONFERENCE was not really helping teachers with their paperwork, i.e., maintaining records and manipulating raw data to measure the critical variables. Although the program organized the data, compared the data to research findings and listed improvement opportunities, it did very little computing--it asked for data, such as mastery levels, that teachers had to calculare. BSC felt that teachers would be tempted to guess the status of the variables during the conference rather than collect and analyze actual data. As a result of further investigation, BSC learned that a data-based management system could be added to CUNFERENCE to create a program that would maintain ongoing records on each of the variables. It would also respond to CONFERENCE's requests for information through data retrieval, calculations (e.g., coverage to date) or projections (e.g., student achievement scores based on planned coverage). Sierra's General Manager II was selected as the data-based management system that best met the need to revise CONFERENCE for three primary reasons: it could be used with the existing operating system, several filed could be opened simultaneously, and it iad allocated space for a user program such as CONFERIENCE. However, after setting up a filing system with information about
each of the variables, we found that General Manager II was not designed to accommodate a user program as long as CONFERENCE. Our solution was to shorten CONFERENCE to fit General Manager II's allocated space. This involved eliminating some of the program's elegance, i.e., the graphics and the space allocated for a user to enter his or her own improvement plans. The shortened program listed improvement strategies in a menu format from which a user could opt to select up to three. (See Appendix $C$ for this final version of the program code.)

Because the revised program was completed late in the school year, there was only sufficient time to demonstrate CONFERENCE to two middle schoo. administrators in the Pennsylvania district. During unstructured interviews, the administrators indicated that they liked the information that CONFERENCE provided-CONFERENCE would make it easier for them to monitor teachers' status on the classroom variables and to work with teachers in identifying and neeting instructional needs. Thus, the addition of the data-based management system to CONFERENCE suggests that the computer can provide useful information that supports instructional decision making by administrators.

The previous sections of this report describe the component's investigation into the use of the microcomputer to facilitate Achievement Directed Leadership's data-based decision making. This section presents some conclusion concerning the two major questions of this investigation: (1) is it feasible to use the computer to facilitate the implementation of Achievement Directed Leadership (ADL); and (2) are there advantages to the microcomputerdriven system, that is, will it reduce onerous tasks (i.e., record keeping, calculations, projections) and thus improve educators' motivation to use quantitative data in instructional decision making?

Technical Feasibility

The Basic Skills Component's investigation suggests that it is possible to use the microcomputer to efficiently store and manipulate data on the critical classroom variables. The BSC was successful in developing such a program for the Apple II Plus computer with 64 K using Sierra's General Manager II as a data-based management system. This program, CONFERENCE, is not elaborate due to space limitations of the data-based management system, but it is consistent with the intent behind Achievement Directed Leadership. We are encouraged that, if we were to pursue a study of the impact of CONFERENCE, component members could work with the developers of General Manager II to overcome the system's space limitation and create a more sophisticated, but still userfriendly software package.

The component's field experience suggests that the advantages of using quantitative data for instructional decision making are not intultively obvious to all educators. Those in favor of using this type of data tend to see the microcomputer as a valuable tool because of its ability to store data in an orderly fashion, and quickly retrieve and analyze data as needed. Likewisa, educators that do not favor the use of quantitative data for decision making do not see the need for a microcomputer support system. These educators fear that the use of a microcomputer will reduce room for their discretion and professional judgment. Thus, although the component developed a program that appears to reduce the paperwork involved in managing quantitative data for instructional decision making and increase the accuracy and efficiency of instructional decision making, such a program can only be effective to the extent that it is implemented. Unless educators value monitoring such data for instructional decision making, the concept of a microcomputer-driven system to facilitate the process will not be either motivating or readily accepted.

In conclusion, our experience suggests that educators who favor Achievement Directed Leadership (ADL), a form of research-based instructional decision making, will accept and use such a mfcrocomputer-based support system; educators who do not favor ADL will not accept and use such a system. However, with appropriate training, experience and incentives, more educators might come to understand and value the advantages of this type of system.

Appendix A

Data Collection Forms
$\therefore 11$

## ACHIEVEMENT DIRECTED LEADERSHIP (ADL) COMPUTER SUPPORT REACTIONS

Questions 1-6 refer to the Time Program:

|  | Strongly Agree | Agree | Uncertain | Disagree | Strongly <br> Disagree |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1. I believe that teachers and administrators could learn to use this program. | SA | A | U | D | SD |
| 2. If I were a teacher or administrator implementing ADL, I would like to use this program. |  | A | U | D | SD |
| 3. I think that using this program would make it easier to implement ADL. | SA | A | U | D | SD |
| 4. I think that teachers and administrators could do a better job of implementing ADL if they used this program. | SA | A | U | D | SD |

5. What do you like best abcut the computer program?
6. What suggestions do you have for improving the program?

Questions 7-1! refer to using the Content Program at the beginning of the year to plan instructional content:
7. If I were a teacher or administrator implementing ADL, I would like to use this program.
8. I think that using this program would make it easier to implement ADL.

SA

SA
A
v
D
SD
9. I think that teachers and administrators could do a better job of implementing ADL if they used this SA A $\quad$ U $\quad$ D program.
10. What do you like best about the computer program?
11. What suggestions do you have for improving. the program?

Questions $12-16$ refer to using the Content Program throughcut the school year to monitor coverage and students' academic periormance:

| Strongly |  |  |
| :--- | :--- | :--- |
| Agree | Agree | Uncertain | Disagree | Strongly |
| :--- |
| Disagree |

12. If I were a teacher or administrator
implementing ADL, I would like to use
this program.
13. I think that using this program would
make it easier to implement ADL.
14. I think that teachers and administrators could do a better job implementing SA

A U
D
SD ADL if they used this program.
15. What do you like best about the computer program?
16. What suggestions do you have for improving the program?

## Response to CONFERENCE

1. I think that having a program like CONFERENCE would be:
( ) very
( ) somewha
( ) of limited
( ) not
useful
useful
2. In its current form, CONFERENCE is:
( ) very easy ( ) easy to ( ) not easy ( ) not
to use
use
3. CONFERENCE could be improved by making the following changes:
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
4. In its current form, the Users Guide for CONFERENCE is:
```
( ) very easy ( ) easy to ( ) not easy ( ) not
```

    to use
    use
    to use usable
5. The Users Guide for CONFERENCE* would be more helpful if it included information about:
$\qquad$
$\qquad$
$\qquad$
6. The Users Guide for CONFERENCE would be more helpful if information about the following was not included:
$\qquad$
$\qquad$
$\qquad$
7. Other comments:
$\qquad$
$\qquad$
$\qquad$
*If you have written comments on your copy of the Users Guide please feel free to ive that copy to BSC staff.

## Appendix B

## Principal/Teacher Conference Form

$\qquad$ Date $\qquad$

## A. Information Collection

1a. What was the entering achievement level of the class?
lb. What is your achievement goal for the class?
1c. Are prior leaming strengths and weakness?s (as identified on the School Year Planning Guide) addressed in short-term instructional plans?

2a. How many content items have been covered to-date?
$2 b$. At this rate, how many content items will be covered by the time the test is administered?

2c. Assuming an 80 percent mastery rate, what is the predicted percentile rank for the class?

3a. On the average, what percent of the class masters each curriculum unit?

3b. Do short-term plans indicate that periodic review of previousiy mastered content is taking place?

4a. What percent of the class is highly successful on daily work at least half of the time?

4b. What is the average student engaged time?
4c. What is the average allocated time?
4d. What is the average engagement rate?
4e. Students' mengaged behaviors were primarily in what category ( $M, S, D, U, O$ )?

_ percentile

Math
$\qquad$ percentile
$\qquad$
$\qquad$
$\qquad$
$\qquad$ percentile
$\qquad$
\%
$\qquad$
$\qquad$
$\%$
$\qquad$ minutes
$\qquad$ minutes
$\qquad$ \%
B. Comfarison and Identification

Circle data that reflect an opportmity.

## C. Selection and Preparation

Describe strategies related to each opportunity.

1. Attention to prior learning.
2. Coverage of criterion content.
3. Academic performance.
4. Time spent.
D. Improvement Plan (indicating what, when, where, and how)

Teacher will:

Principal will:

## Appendix C

## CONFERENCE Program Code

```
    HG FEM LONFEFENCIE FFOGFAM
    O白的= "%"
    OO OFEN:SC=9: DIM S(SC):W$ =
        "":トロ& = "N
    4.) FOF G= = TO SL: % INFO,S,L(S
        ): WEXT S
    50 DMM D$(L(SC)): DIM KOQ(L (SC))
    80 DIM SU(32)
    G!) D$ = CHFi$ (4)
    7O DIM G(12),OF(13),UN$(120),U2क
        (120), U3क(120),U4年(120)
    100 F:EM INTFODUCTION
    110 HOME
    120 FFINT "FLEASE ENTEF THE FOLL
        OWING INFORMATION:": FFINT:
        FKINT
    1:0 FFINNT "1. ";
    140 INUEFSE
    1%G FFINT "TODAY"S ";
    16O NOFIMAL
    1.70 % FOS FLO,G,1: & FFITNAME, S:
        FFINT : FFINT " ":: & INFUT
        #TD車:O
    1@0 IF LEN (TD$) = 0 THEN FRINT
        * FFIINT "ND ENTRY MADE. TF゙Y
        GGAIN.": FFINT : FFINT : GOTO
        170
    190) IF FQ = 1 THEN GOTO SOO
    200 FRIN7 : FFIINT : FFIINT "2. ";
```

    210 \& FOS FLD, \(6,2: \&\) FFTNAME, \(\because:\)
        FFINT : FFINT " ": : 8 INFUT
        , TC\&: O: IF FG \(=1\) THEN GOTO
        300
    2の FFINT : FRINT : FRINT "玉. ":
$: 8$ FOS FLD, $6,8: 8$ FRTNAME,
ミ: FFINT : FFIINT " ": \& \& INFUT
, St, G: IF FG $=1$ THEN GOTO
300
23O FFINT: FRINT : FFINT "4. ":
$: \&$ FOS FLD, 6, 4: \& FFTNAME,
B: FFIINT : FFINT " ": \& INFUT
-G多, O
240) FFiINT : FRFINT : FFINT "5. "
: : $\because$ POS FLD, $6,5:$ \& PFTNAME
s: FFINT : FFINT " ": \&
INFUT , CL $\$ \mathrm{O}$
250 FFINT
260) FFINT : FFINT "G WOULD YOU L
IKEE A FRINTED": FFIINT " SU
MMAFIY OF THIS CONFEFENCE? ";
: \& SEL, O.Y
270 IF USR (O) $=1$ THEN $X \pm=" Y$
280 IF USF (O) $=0$ THEN $X \Phi=" N$
270 FFINT
BOO FG＝O：FFIINT＂IG THIS COFFEC
T？＂：：\＆SEL，O，Y
$\Xi 10$ IF USF $(0)=0$ THEN GOTO $\underset{O}{0}$IF USF（O）$=1$ THEN GOTO 3520 IF USF（0）$=1$ THEN GOTO 340
S3O HOME ：GOTO 110
340 \＆FEAD，1，D $\$$（1）．ドQ
$\therefore 44$ IF USF（ $O$ ）AND IT $=0$ THENHOME ：UTAE 12：FFINT＂THEFE ARE NO TEST FECOFDS FOR＂：FFINT＂GFADE＂：G多＂＂；：\＆FGGFLD， $6,3: 8$ FFINT，S丰：END
（2）
TOO IF F\＄\＆$>$ FK\＆THEN GOTO ..... 3
0
370 IT＝VAL（DG（9））
380 FEAD $6, D \$(1), K B Q$
385 IF USF（O）AND $F 2=0$ THENHOME ：UTAE 12：FRINT＂THEFE AFE NO TEACHER RECOFDS FOF$": \%$ FOS FLD，6，2：\＆FFINTTC虫：END
$L(5)+B)+D W(L(5)+4)+D$क $2 \mathrm{~L}(5)+5)$ THEN GOTO 380
$400 \mathrm{Fa}=1$
410 AL＝VAL（Dक（L？5）＋6））：GA＝VAL（D\＄（L．（5）＋7））
$430 T X=D=D(L(5)+8): T S \$=D \$(L$（5）＋ヲ）
440 HOME
UTAE 12：FFINT TAB（ 1Z）：＂FLEASE WAIT．．＂
46O FFINT TAE（ 10）：＂COMFUTER WOFKING＂

475 IF USF（O）AND FS $=0$ THENHOME ：UTAB 1O：FFINT＂THERE AFE ND MASTEFY FECOFDS FOR＂：\％FOS FLLD， $6,2: \%$ FFINT，TC生：FFINT：FFINT＂GFiADE＂FFINT，S\＄：FFIINT：FFINT＂CIASS＂：CLक：END
480 IF USR（O）THEN GOTO \＆10
$40012 \$=\mathrm{D} \$(\mathrm{~L}(7)+1)+\mathrm{D} \$(\mathrm{~L}(7)+$$2)+D \$(L(7)+3)+D \$(L(7)+$4）
SOO $1 F$ KEY出 $\quad \rightarrow 2 \Phi$ THEN GOTO470
$510 V N=V N+1$E15 FE＝15 IF VAL（D\＄（L（7）＋（G＋VN））$2!$）$\gamma=80$ THEN $S U=S U+1$$F D \$(L(7)+(6+U N)) \& \quad+$
"" THEN $C=C+1$

540 IF $D \$(L(7)+i 6+V N))<>$
＂＂THEN GOTO 510
550 IF VAL（SQ\＄）＜＝VAL（D\＄（ $L(7)+6)$ ）THEN SQ\＄＝D\＄（L（7 ）+6$): U=U+1: U N \$(U)=D \$$ $(L(7)+5)$
$560 \mathrm{SU}=($ INT $(\langle S U / \mathrm{C} *: 00)+$ ．5））
$570 S U(U)=S U: S U=0:$ IF SU（U）＜ 80 THEN NM $=N M+1$
$580 \cup N=O: C=0$
570 IF SQt＝＂＂THEN FFINT＂THE RE AFE NO TEST RECOFDS＂：FFINT ＂FOF＂：：F FOS FLD，8， $1: 8$ FFINT －TC
600 GOTO 470
 （D事（L（1）＋1））：NT＝VAL（D （ $L$（1）＋2））
615 IF USF（0）AND NS $=0$ AND $N$ $T=0$ THEN HOME ：VTAB 12：FFINT ＂THEFE IS NO CALENDAF FILE＂： END
620 ＊ $\mathrm{FEAD}, 7, \mathrm{D}=(1), \mathrm{FCl}$（1）
6 IF USF：（O）AND F\＆$=0$ THEN HUME ：VTAE 12：FRINT＂THEF E AFEE NO FI ANNTNG GUIDE＂：FFINT ＂FECOFDS FOR GFADE＂：Gis＂＂： ：\％FOG FLD，6，2：\＆FFINT， S出：END
Gヲ IF USF（O）THEN GOTO 740
 $2)+\mathrm{D} \ddagger(\mathrm{L}(6)+\Xi)+\mathrm{D})(\mathrm{L}(6)+$ $+5+\mathrm{D}=\mathrm{t}(\mathrm{L}(6)+5)$
 ト4出 THEN GOTO 620
$65 \mathrm{~F} 4=1$
6iO FOF IC $=1.2$ TO S7 STEP 4
670 IF Di（L（6）＋IC）＝CHFi（11
5） $\mathrm{OR} D=(\mathrm{L}(6)+I C)=\mathrm{CHF} \ddagger$ （211）OR Dw（L（G）$+I C)=C H F \ddagger$ （11．7）DF D虫（L（6）＋IC）$=$ CHR\＄ （215）THEN SF $=1$
680 NEXT IC
$680 \mathrm{DT}=\mathrm{DT}+\mathrm{VAL}(\mathrm{D} \$(\mathrm{~L}(6)+4 \Xi)$ ）$: T S=T S+$ VAL $(D \$(L(6)+$ 44））
700 IF DT $=$ NI THEN NF $=\mathrm{NF}+$ VAL（D\＄（L（6）＋44））
710 IF VAL（GQD）$\quad=$ VAL（D\＄（ $L(6)+10)$ ）THEN DY＝DY＋VAL． （D）$(L$（ 6$)+4 \Xi)$ ） $5 K=5 K+$ VAL （D）（L（6）＋44；）
720 IF DT \＆NT THEN $\Omega T=5 T+$ VAL BEST COPY AVAILABLE $(D \$(\mathrm{~L}(6)+44)): S 2 \Phi=\mathrm{D}+\mathrm{L}(\mathrm{L}(6$ $)+10): \mathrm{J} 2=12+1: U 2 \$(I 2)=$ D韦（L（6）＋9）
$7 \Xi 0$ K5\＄＝D $\ddagger(L(6)+\Xi)+D \$(L(6)+$


```
740 31=((SK* TS) * 100) + .5:S
    I=INT {S1):S2 = (\ST / TS
    )* 100) + .5:S2 = INT (S2)
```

750 HOME
760 IF X\＄＝＂Y＂THEN \＆FF＇\＃
770 GOSUE 1540
780 FFiINT ：FRINT TAB：1S）＂FFIO Fi LEAFNING＇：FFiINT TAB（ $1 \Xi$ ） ＂＊＊＊＊＊＊＊＊＊＊＊＊＊＊＂：FifinT
790 FFINT＂ENTEFING ACHIEVEMENT－ ＂；AC：＂＂：AU\＄
GOO FFIINT ：FFIINT＂GOAL ACHIEVEM ENTー＂：GA：＂＂：AU\＄
E10 FFINT ：FFINT＂STFENGTHS AND WEAFNNESSES HAVE＂：
820 IF SF $=0$ THEN OP（1）$=1:$ FFINT ＂NDT＂：
日SO FRINT＂EEEN＂：FRINT＂IDENTIF IED ON YOUFi SCHOOL YEAF＂：FFINT ＂FLANIVING GUIDE＂
8ड5 IF $X \pm=$＂Y＂THEN FFIINT D娄：＂ FF：\＃G＂
84U VTAB 2S：INFUT＂FFESS FETUFIN TO CONTINUE．．．＂：M
645 IF $X$＝$=$＂Y＂THEN FFiINT Dक：＂ FFi\＃i＂：FFINT CHF＇क（12）
850 HOME ：FFINT：FRINT TAB（ 1 2）＂CONTENT CQVEFAGE＂：FFINT TFB！12）＂＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＂： FRINT
BSE IF X $=$＂$=$＂Y＂THEN FRINT D\＄；＂ Fど\＃O＂
BOO FFINT＂HOW MANY INSTRUCTIONA L DAYS＂：INFUT＂HAVE EEEN US Eח．．＂：NI：FFIINT：PFIINT＂HOW MANY INSTRUCTIONAL DAYS＂：INPUT ＂GINCE YOLIF LAST UNIT TEST．． ＂：UI：Ni＝NI－UT
8．55 IF $X$ \＄$=$＂Y＂THEN FR\＃\＃ 1
ध\％F＇FiINT
BGO FFEIHT＂YOUN LAST UNIT TEST W AS ON LINIT＂：UNक（U）
890 FRINT ：FFIINT＂YOUJ FLANNED 0 N USING＂：DY：PRINT＂INSTRUC TIOWAL DAYS BY THAT DATE＂
Q（iO）FFINT ：PFINT＂YOU ACTUALLY UGED＂：NI：＂DAYS＂
910 IF NI $\geqslant$ DY THEN PRINT ：FFIINT ＂YOU AFE＂：NI－DY：＂DAY＂：：IF N1－DY＞ 1 THEN FFITNT＂S＂：

UnO IF NI $>$ DY THEN FFIINT＂EEH IND YOUF FLANS＂
930 IF NI $\therefore$ DY THEN FFIINT ：FFINT ＂YOU AFEE＂：DY－NI：＂DAY＂：：IF DY－NI $\because 1$ THEN FRINT＂S＂：
$9401 F$ NI © DY THEN FRINT＂AHE AD DF YOUJF FLANS＂

```
    950 IF NI = DY THEN FRINT : FFINT
        "YguU ARE IN AGFEEMENT WITH Y
        OUF: SYFG"
    955 FF:INT D$
    756 IF X$ = "Y" THEN FR## O
    960 PRINT : FFINT : INFUT "PRESS
        FEETUFN TO CONTINUE..":BL$: HOME
    765 IF X$:= "Y" THEN FRINT Dक:":
        FF##"
    770 FRINT : FFINT "YOU HAVE COVE
        FED ";S1:"% OF THE SKILLS": FRINT
        "THAT YOU FLANNED ON CIOVEFIN
        G": FFINT "EY TEST DATE"
    980 FFINT : FFINT "ACCORDING TO
        YOUF SYFG YOU WILL": FRINT "
        COVE:F ";S2:"% OF THDSE SKILL
        S EY TEST DATE"
    985 IF X = "Y" THEN FRINT Dक:"
        FF#O"
    970 HLASH: vTAE 10
    1000 HTAE 1S: PFINT "WORKING"
    1010 NOFMML
    1020 & FEAD 4,D$(1),KQ$
    1025 IF USF (0) AND FS = O THEN
        HOME : VTAB 12: FRINT "THEF
        E IS NO CONTENT FILE FOR THI
        S CLAES": END
    10%O IF USF (0) THEN GOTO 1070
```



```
        +2)
    10EO IF K5$ & > KO$ THEN GOTD
    1020
    1055 FS = 1
    1060 IS = IS + 1:U4$!I5)= D$(L) 3
    ) + 11): GOTO 1020
    1070 Í = IS: FDF IS = 1 TO IG
    1080 FOF I4 = 1 TO I5
    1090 IF UN$(IJ) = "" THEN GOTD
    1110
    1100 IF UN$(IS) = U4${I4) THEN C
    Z=CZ + 1
    1110 IF U2$(IS) = "" THEN GOTO
    1%O
    1120 IF U2$(I3) = U4#{I4) THEN C
    1 = C1 + 1
11\Xi0 IF U\Xiま(IS) = "" THEN GOTD
    1150
    1140 TF US$(I#) = U4$(I4) THEN C
    = C2 + 1
    1150 NEXT I4: NEXT IS
    1100 EF = 7
    1.170 CD = (CS / IT) * 100 + .5:CD
        = INT (CD)
    1180 LT = (C1 / IT) * 100 + .5:CT
        = INT (CT)
        1190 C:Y = (NT (CT) / IT) * 100 + .5:C.Y
        = INT (CY)
            3:
1210 FRINT CHF：（11）
1215 IF \(X \neq=\)＂Y＂THEN FFINT D\＄；1220 FRINT ：FFINT＂COVERAGE TDDATE DF ITEMS ON TEST IS＂：CD；＂\％＂
12SO FFIINT：FRINT＂CQVEFAGE EYTEST DATE IS＂：CT：＂\％＂
1240 FFINT
1250 FRINT ：FRINT＂COVERAGE EY
THE END DF THE YEAR IS＂：CY：＂\％＂

1270 FOF I \(=1\) TO 100：NEXT I
\(1290 \mathrm{CO}=\mathrm{INT}(\mathrm{C} 1 *-\mathrm{B}+.5\) ）
12908 FEAD ，З，D\＄（1），KQ\＄（1）
1295 IF USR（O）AND FG \(=0\) THENHOME ：VTAB 12：FFINT＂THERE．IS NO NOFMS TAELE FOR THISCLASS＂：END
1 OO IF USF（O）THEN GDTO \(1 \Xi 70\)
\(+1)+D\) 虫 \((L(2)+E)\)
1290
\(1 \times 5 F_{6}=1\)
\(1 \therefore \mathrm{BO}\) IF CO \(=\) VAL（D） \(4(L(2)+8))\)THEN F \(=\) VAL（D\＄（ 12 （2）+9 ）
    ): FFF = 1
    1340 IF VAL (Dक (L (2) + F)) \& INT
        (GA / . \(8+.5\) ) THEN GOTO 12
        90
    1350 K゙ = VAL (D\$ (Li2) + 8))
    \(1 \leq 60\) JF FF \& \(\quad 1\) THEN GOTO 1.29
        O
    1365 IF \(X=\) "Y" THEN FFINT D\$;
        "FFi\#O"
    1.70 VTAE 2S: INFUT "FFESS FETUR
    N TO CONTINUE. . ."; EL\$
    155 IF \(X \$=\) "Y" THEN FFINT D志:
        "Fr゙\# 1 "
    1380 HCIME : FFINT : FFINT "FFEDI
        CTED ACHIEVEMENT GIVEN": FFiINT
        "COVEFAGE TO TEST OF ":C1:"
        ITEMS": FFINT "AND BO\% MASTE
        FY IG ";F: SFC(1):"\%ILE"
    \(13 \%\) FFINT
    \(1400 E F=7\)
    1410 IF \(F\) - GA - EF THEN OF (2) =
        1: FFIINT : FFIINT "TO REACH \(Y\)
        IJUF ACHIEVEMENT GOAL OF ";GA
        : "\%": FRINT "YOU WILL NEED T
        i] INCREASE CQVERAGE": PRINT
        "TQ ";K゙;" ITEMS (ASSUMING BO
        \% MAGTEFY)": GOTO 1.450
\(1400 \mathrm{OF}(4)=0\)14 ： 14 FRINT ：FRINT＂THIS LEVEL \(\square\)F COVEFAGE IS＂：FFINT＂CONS！STENT WITH YOUF＂：FFINT＂AIC．
```

    HIEVEMENT GOAL OF ";GA:"%"
    1440 NOFIMAL : VTAB 2S
    1450, IF X$ = "Y" THEN FFFINT D$:
    "F'F'#!"
    145S UTAB 2S: INFUT "FFESS FETUR '
    N TO CONTINUE...":M$
    1460 HOME : UTAB 10
    1476 L0T0 1790
    1480 % FOS FLD,6,1: FRINT "DATE
    : ":: & FFINT ,TD$
    1480 FFIINT : FFRINT M生
    1500 INFUT XX$
    1510 IF LEN (XX$) = O THEN FRINT
        : FFINT "NO ENTFYY MADE.TFIY A
    GAIN.": F'FINT : GOTO 1490
    1520 IF LEN {XX多 % L THEN FFIINT
        : FFIINT "TOO LONG.":L:" CHAF
    ACTEFS ONLY.": FFINT: GOTO
    1470
    ```
    \(15 E 0\) FETUFN
    1S4O FFINT "TEACHEF: ":
    15GT ? FOS FLD, 6,2 : \% FFIINT, \({ }^{2}\)
    C本
    1. GCO FFIINT: FFINT
    1世7"FFINT "GFADE: ";
    1560 \& FOS FLD,6,4: \(\because\) FFIINT, G
        \$
    \(1: 9 G\) FFINT : FFINT : FFINT "SUEJ
    ECT: ";
    1600 \& FOS FLD, \(6,3: \%\) FFINT, 5
        \$
    161. FFINT: FFINT
    1620 \& FOS FLD, \(6,1:\) FFIINT "DATE
        : ": : 是 FFiINT, TD
    1.6OO FFINT : FFINT
    1640 FETUFN
    1650 FOS FLD, \(6, \leq: \%\) FRINT, \(S\)
        \$
    1.660 FFINT: FFINT M \(\$\)
    1670 INFUT XX\$
    1.680 IF LEN \((X X \pm)=0\) THEN FFFINT
        : FFIINT "NO ENTFYY MADE.TFiY A
        GAIN.": FFINT : GOTO 166O
    1.690 JF ASC (XX\$) \& 78 AND ASC
        ( \(X X \pm\) ) ; \(\because 89\) THEN FFINT : FRINT
        "ENTFY MUST BE: YES OFI NO": FFIINT
        : GOTO 1660
    1700 FETUFN
    \(1770 \mathrm{NZ} \ddagger=E A=(I, J+1):\) FETUFN
    \(17 \mathrm{~B} \mathrm{H} \boldsymbol{Z}=\mathrm{EA}=(\mathrm{I}, \mathrm{J}):\) FETUFN
    1790 JF \(X^{\circ} 5=" Y "\) THEN FRINT D \(\$\)
        "FFF\#1": FFIINT CHFi\$ (12)
    \(17 ヶ 4=0\)
    1770 IF NM \(\geqslant\) THEN DF (
    18OO HOME : IF U + \(1 . \geqslant \mathrm{VAL}\) (SQ \(\ddagger\)
        ) THEN (GOTO 2000
    1910 HTAE 5: FFINT "TOFICS"; 34
    183O HTAF 1E: FRINT "UNIT":
    18:0 HTFE 27: FFINT "\% OF CLASS:"
```

1840 HTAB 24: FFINT "FEACHING MA
STEFiY'
1850 HTAE 25: FRINT "(80% DF EET
TER)"
1860 HTAE 24: FFIINT "ON LAST LINI
T TEST"
1970 FFINNT "=====================
====================" ( F'FINT
: FFINT
1880 IF U = O THEN \& FEAD ,7,D
$(1),ドG$(1),F
1870 IF U % OHEN % FEAD ,7,D
$(1),ぼ\क(1)
1700 IF USF (0) THEN GOTO 2000
1910 K8& = D$(L(b) + 1) + D$(L(6)
        + 2) + D$(L(G) + S) + D中 (L{
6) + 4) + D$(L(6) + 5)
1720 IF K゙B$ \& > \&゙4方 THEN GOTO
1800
1950U=U+1
1940 IN = IN + 4
1945 IF X$= "Y" AND D$(L)(6) + {
7 + IN!) = "" THEN FFINT TAB(
20):D$(L(b) + 9); TAE( 31);5
    U(U):IN = 0: FRINT D&; "FFF#O"
    * VTAE 2S: INFUT "FFEESS FETU
    FNN TO CONTINUE...":EL$: FFIINT
Dま:"FFR\#1": FFiINT C.HFi\$ (12):
GOTO 1800
174% IF X$= "Y" AND D虫(L(6) + (
    7 + IN)) = "" THEN FFFINT D$
9"FF'\#1": FRINT CHF%\$ (12): GOTO
1000
1950 IF D*(L(6)+(7 + IN)) = ""
THEN VTAB 10: HTAB 2O: FFINT
D$(Lib) + 9): VTAE 10: HTAE
    S1: FFINT SU(U):IN = 0: VTAE
    23: INFUT "FRESS FETURN TO C
    ONTIMUE...";EL$: GOTO 1800
1960 % FOS FLD,7,7 + IN: FOKE }
,0
1779 \& FFIINT,D$(L{6) + (7 + IN
    ))
    1780 FFIINT
    1990 GOTO 1940
    Z(%)1FX$ = "Y" THEN FFIINT D$;
        "FF#O"
    2005 HOME : UTAB 1S
    2010 FRINT TAB( 18):"TIME"
    2020 FFINT TAB( 18);"****"
    2OSO FFINT D$:"BLOAD CHAIN,A52O"
2O40 CALL E2O"CONF.FAFTE"

```
    JFFi\#い
    IL \(1: 3\)
```

    )
    5 0 ~ D I M ~ L I ( 1 0 ) , C O ( 1 0 ) ~
b0 DIM T2$(13,12)
6OOO FEM TIME
6001 C = 0
6005 % FEEAD,9,D$(1),FQ$(1)
6006 IF USF (0) AND F7 = O THEN
        HOME : VTAB 12: FRIINT "THEFi
    E AFEE NO TIME OBSEFIVATIONS":
        FFIINT "FOFT THIS CLASS": END
    610 IF USFi (0) THEN GOTO 61%O
    6015 &9% = D$(L(8) + 1) + D\$(L(8)

```

```

    8) + 4)
    6O% IF F゙G\$ \& ` FEEYक THEN GOTO
6005
6%5 F7 = 1
60SOTक(C,O)=Dक(L(B) + S )
60ES T$(C,1)=D$(L(B) + 6)
6040 T韦(C,2)=D专(L(8) + 7)

```

```

605 T$(C;4)=D$(L(8) + 7)
6060 T$(C,5) = D$(L(8) + 10)
60s5 \Gamma$(C.6)=D$(L(8) + 11)
60% Tक (C,7) = Dक(L(B) + 12)
0%5T$(C,B)=D$(L(B) + 1S)
6080 T$(C,7) = D$(L(B) + 14)
6085 T央(C,10)=D直(L(B) + 15)
6090 T$(C,11)= D$(L(B) + 1G)
G91 C = C + 1
605% GOTO 6005
\&|(10)C = C - 1
GIO1 IF X\$ = "Y" THEN FFIINT D$:
        "F゙F゙#1"
    6102 FOF V = O TO C
    6104 HOME : FFIINT "THE FOLLOWING
        OESEFVVATION DATA"
    6105 FRINT "HAVE EEEN RECOFDED:"
    6106 FFINT "======================
        ======================" ' F'FINT
    FFFINT
    E11O % FOS FLD4%,5
    611% % FFTNAME,2
    61.1.4 FOLE 9,0
    G11E FLITNT "...":: & FFINT ,T$(
!0)
G1%O FRINT: \& FOS FLD,9,b
\&1O2 \& FFTNAME,2
G1O4 FOHEE 9.O
\&|:H FFINNT "..."::% FRINT,T$(
        V,1)
    6,SO FFINNT: % FOS FLD,7,7
    61\vec{-G &FFTNAME,2}
    6134 FCLHE 9:0
    61% FFIINT "...":: % PRINT ,T$(

6142 \＆FRTINAME， 2
6145 FOFE 9，0
6145 FFiINT＂．．．＂；：$\because$ FRINT，T\＄ $V, 3)$
6150 FFIINT：FRINT ：\＆FOS FLD， 9．9
6152 \＆FRTNAME，2
615：FOKE 9，0
6155 FFIINT＂．．．＂；：\＆FRINT，Tま V，4；
6160 FFINT ：$\because$ FOS FLD， 9,10
6162 \＆FFTNAME， 2
6163 FOFE 9．0
6165 FFINT＂．．．＂：：\％PRINT，T\＄（ V，5）
6170 FFINT ：\＆FOS FLD， 9,11
6172 \＆FFITNAME， 2
6．73 FOKE 9．0
6175 FFINT＂．．．＂：：FRINT，TW（ $V, 6)$
6180 FFINT ：$\because$ FOS FLD， 9,12
6182 \＆FFTNAME，2
618 B FOKE 9.0
6185 FRINT＂．．．＂；：\＆FRINT，Ticis V，7）
6.190 FRINT ：FFINT ：$\because$ FOS FLD． 9，13
6192 FFRTNAME，2
619 FOKE 9.0
6195 FIENNT＂．．．＂：\％FFINT，T生く V， 81
S3O FFIINT：\＆FOS FLD， 7.14
6202 \＆FFITNAME，2
620S FOKE 9，0
6205 FFINT＂．．．＂：：\％FFINT，TB（ V，7）
6210 FFINT： 8 FOS FLD， 7,15
621＂\＆FFTTNAME，2
6213 FCIEE 9.0
6215 FRINT＂．．．＂：：FFRINT，Tic V．10）
6220 FFINT ：\＆FOS FLD，9，16
$6292 \%$ FFTNAME， 2
－22马 FOKE 9：0
6224 FFilNT＂．．．＂：：\％FRINT ，T象（ V．11）
6225 TF $X=$ 束＂Y＂THEN FFR O
6226 FRINT ：VTAE 2E：INFUT＂FFE SG FEETLFIN TH CONTINUE．．．．＂：EL中
6927 IF $X \neq$＂Y＂THEN FFINT Dq： ＂FFF\＃1＂：FFINT CHF\＄（12）
$6 \approx 2 \mathrm{E}$ NEXI V
6297 FOFI $I=0$ TO C
$6 \therefore 40 \mathrm{~T} \$(\mathrm{I}, 9)=$ STF\＄（INT（100＊ VAL（T\＄（I，9））＋．5））
 （T\＄（I，10））＋．ت ））
$6: 60 \mathrm{~T} \%(\mathrm{I}, 11)=\mathrm{STF}+\mathrm{\$}$（INT（VAL （1虫（1，11））＋．5））
$627 \mathrm{AV}(0)=\operatorname{AV}(0)+\operatorname{VAL}(T \$(I, 1$
（1）；
6980） $\operatorname{AV}(1)=A V(1)+V A L\langle T \$(I, 9$
；）
$6270 \mathrm{AV}(2)=\mathrm{AV}(2)+\mathrm{VAL}(T \Phi(I, 1$
1））
G99E IF VAL（T\＄（I，10））＊TH THEN
$T H=\operatorname{VAL}(T \$(I, 10))$
GOG NEXT I
6510 FOF：$I=0$ TO 2
$650 \mathrm{AV}(I)=A V(I) /(C+1)$
$6 \because G O(I)=I N T(A V(I)+.5)$
0.540 NEXT I
©． .45 IF $X$ क $=$＂Y＂THEN FFINT D $\ddagger$ ；
＂FFR 1 ＂
6550 HOME ：FFINT
$6 S 60$ FFIINT TAE（ 14）＂SUMMAFIY SHE
ET＂：FRINT
6370 FRINT＂DATE OBSUF PRT A T＂：SFCi 5）：＂EF＂：SFC（ S）：＂S ET＂
637E FOF I＝0 70 C
6SBO FFICNT ：\＆POS FLD，9，5：FOFEE
9，0：品 FFINT，T\＄（I，O）
GSCO FFIINT SFC（ 2）
O400 \％POS FLD，7，6：FOKEE 9，0：\＆ FFINT，T\＄（I，1）
6401 FFilNT SFC（ $\quad$ ）
$6402 \%$ FOS FLD，9，7：FOKE 9，0：\＆ FFINT，T\＄（I，2）
64（14 FFINT TAS（ 20）Tक（I，10）：＂M IN＂：
640 FFINT T\＄（I，9）：＂\％＂；SFC（2）；
6408 FFINT T\＄（I，11）：＂MIN＂
6410 NEXT I
6420 I $=20:$ IF AV（0） 100 THEN
$I=21$
$640 \mathrm{~J}=2: \mathrm{IF}$ AV（2）\＆ 1.00 THEN J $=\mathrm{Z}$
6440 FFINT ：FFINT TAE（7）＂AVEF＇ AGES＂；TAE（ I）：AV（O）：＂MIN
＂：AV（1）：＂\％＂：SFC（ I）：AV（2）：＂ MIN＂
6445 IF：$X$ 生 $=$＂Y＂THEN FRINT Dw； ＂FF＇州＂
G4゙GO FFINT ：FFINT：INFUT＂FFES 5 FETUFN TO CONTINUE．．．＂；M生
お的
6570 CALI 520＂TIME2＂
JFF゙\＃！
JLIST

GOOO FEEM TIME


＂ 0 ＂

6772 DIM AL（11），EF（11）
6780 DATA 6，＂A－－GFi． 1 FEADING LANG＂$\because, ~=8,110,1 \leq 0,210,10$
6790 DATA＂E－－GFi．READING／LAN $G^{\prime \prime}, 5,48,88,113,170,198,205,1$ 2
6800 DATA＂C－－GFi． 5 FEADING／LAN $G^{\prime \prime}, 3,40,78,72,135,7$
6810 DATA＂D－－GFi． 1 MATH＂，5，5，S 4，46，140，152，165，6
6820 DATA＂E－GRi． 3 MATH＂， $3,8,4$ 6，61，108，8
$69 \mathrm{O} O$ DATA＂F－GFi． 5 MATH＂， 217. シ2，46．79
6840 FEAD F1
6850 FOR I $=1$ TO F1
6860 FEAD $Z Z \$(I), K(I)$
6870 FOF $J=1 \mathrm{TO} K(I)+1$
6880 FEAD CA（I，J）
6890 NEXT J
6891 EA䗑 $(I, 1)=" T I M E$ EELOW FANGE
6892 EAq（I，2）＝＂BELOW EXFECTED A CAIEVEMENT LEVEL＂
6893 EAक（I， 3$)=" A T$ EXFECTED ACHI EVEMENT LEVEL＂
6 394 EA $\ddagger(I, 4)=$＂ABOYE EXFECTED A CH？EVEMENT LEVEL＂
6B75 EAw（I． 5 ）$=$＂TIME AEDVE FANGE ＂IF \＆（I）\＆$\geqslant$ THEN GOTO 6 900
0897 EA\＄（1，2）＝＂TIME EELDW AVEF：A GE＂
6B4E FA出（I，उ）＝＂TIME ABOVE AVEFA GE＂
$6397 \mathrm{EA} \$(\mathrm{I}, 4)=\mathrm{EA}(\mathrm{I}, 5): \operatorname{GOTO} 69$ 10
6800 IF $K(I)=3$ THEN GOTO 6910
$6701 E A(I, 7)=E A \$(I, 5)$
$6702 E A ⿻(I, 6)=E A \$(I, 2): E A \$(I, \ldots)$ $=E A \Phi(1, \Xi)$
6910 FEAD MC（I）
6920 NEXT I
6Q＂E HOME ：M4＝＂IS THIS AN ELEM ENTAFIY CLASS？＂：GOSUE 15080 $: X 1$ 古 $=X X$ ；
6727 IF $\operatorname{ASC}(X 1 \$)=78$ THEN YX $\$$ $=" G ": K(I)=1: C A(I, 1)=10$ $: C A(I, 2)=114 \operatorname{EA}(I, 1)=" T$ TME EELOW FIANGE＂：EA\＄$(I, 2)=$ ＂TIME IN FiGNGE＂：EA虫（I，B）＝＂ TLME ABOUI FANGE＂：MC（I）$=97$ $: 60707410$
6 6\％HOME ：FFINT＂THE FOLLOWING COMMFAFISON OFTIONS＂：FFINT ＂AFEE AVAILABLE：＂：FFIINT FOF I $=1$ TO FI FRINT：FFIINT ZZ韦（I）

```
    6960 NEXT I
    6770 FHINT : FHINT "WHICH OFTION
        DG YOU WANT TO LSE? ": INFUT
    "(1 YFE OINE LETTEF)":YX娄
    GGOO FEM DATA ANALYYSS
    70@O IF X$ = "Y" THEN F'FINT Dक;
    "FF'#1": FFIINT CHF$$ (12)
    7410 FF:INT : FFIINT : HOME : FFIINT
    82GO FFINT TAE( 16)"COMFAFISON"
    G#O 1% ASC (XI$) = 78 THEN GOTO
    8340
    8.OO NG= AV(2): GOSUE 19860:E寺=
    NZ$
    GOE IF MC = 99 THEN MC = 0
    8S0G JH = J
    8S10 FFIINT : FFINT : PFINT "ENTE
    FING ACHIEVEMENT OF": FRINT
    "YOUFF CLASS IS ":AC:"%"
8S11 FFINT : FFINT "YOUR ACHIEVE
    MENT EODAL IE ";GA;"%"
    GyJQ FFINT : FRINT "AVEFIAGE STUD
    ENT ENGAGED TIME JS ":AV(\Omega):
        " MIN. ": FFINT E$
    #SIS [F" X$ = "Y" THEN FFFINT D$;
        "F゙な0"
    ABIL 3F E.t = "TIME EELOW FIAMGE" OF
    E$ = "TIME BELOW AVEFAAGE" DF
        LEFT% (E$,55) = "EELLOW" THEN
    GF(4) = 1: GOSUE 199SO
    ESB 1F" LEFT$ (E%,2) = "AT" THEN
        GOSUE 1996E
    ESS7 TF LEFT$ {E古,S) = "AEOUE" THEN
        GOSUE 20000
    ESS IF (F%(I) & = ङ) OF JH % =
        3 THEN GOTO g.354
    8S9 IF VAL (AZ\Phi) = 1 AND LEFT$
        (E#,5) = "ABOUE" THEN GOTO
    8.70
    B340) IF: VAL (AZक) = 2 AND 'LEFT$
        (E.$,5) = "AEQVE" THEN GOTO
        8\Xi0")
    834l FFIINT : FFiINT "THIS ZONE BE
        GINS AT ":CA(I,JH - 1; - 1: FFFIHT
        "ANL) GOES DOWN TO ":CA(I,JH -
        2)
    645 BOTO 8360
    BEA IF VAL (AZ$) = 1 THEN NG =
    AV(2): GOTO 8STO
    &&LES IF VAL (AZ$) = 2 THEN GOTO
    BS60
    ESEGGFFINT "THIS ZONE BEGINS AT
        ":CA(J.J)
    ESGO FHINT :MI = "WHAT IS YOUF:S
        TUDENT ENGAGED TIME GOAL? ":
        i. = %:GOSLIE 190OO:NG = VAL
        4i)
        (x)生!
    HS%0 GOSIJE 19860: HOME : FFINT "
        YOUFi GOAL IS ":NG:" MIN.": FRINT
```

```
    : FFIINT "EXFECTED ACHIEVEMEN
    7:": FFFINT NZक: FF:INT
8B90 M$ = "IS THIS THE GOAL YOU I
    NTENDED? ": GOSUE 19080: IF
        HSO (XX古) = 78 GOTO 8S60
8\82 EF = AV:1)
8.38: IF AV(1) & 80 THEN ER = 79
8.34 IF AV(1) }>=70\mathrm{ THEN FRINT
    "YOUF CLASS"G ENGAGEMENT F:AT
    E IS GOOL": GOTO B42O
G3S DF = 90-EF
OB86 HOME : FRINT "IN ORDEF TO A
    TTAIN YOUFR SET EOAL OF ";NG:
        FFINT "YOU CAN USE ANY OF T
    HE FOLLOWING": FFINT "COMEIN
    ATIONS:"
8%87 FFINT : FFINNT" ENGAGEMEN
    T RATE ALLDCATED TIME "
GBGG FF:TNT "
        FOF Z = 1 TO DF
    8SOO FOF Z = 1 TO DF
834 EF = EF + 1
g\GG EF(z) = EF
8400 AL_(Z) = NG / EF(Z) * 100:Al_(
    Z; = INT (AL(Z) + .5)
B4O8 FFFINT Z:".": TAE( 9):EF(Z);
        TAE( 2B);AL(Z)
84|! NEE:T Z
841S FFINT : FFINT
G42O FFINT : FFIINT : FFINT "YOUF
        SELECTION? (1 TO ":Z - 1:")
        ";
    E42! INFUT "..":CN$
8424 JF VAL (CN$) & 1 OF VAL (
        (NN) > Z THEN FFFINT "FLEASE
        ENTEF 1 TO ":Z - 1:: GOTO 8
        421
8425 AL = AL (VAL (CND)):ER = EF(
        VAL (CND))
    8430 vTAE (2S): INFUT "FRESS RET
        UFN TO CONTINUE....":ILL$
    8447% FEM UNENGAGED EEHAVIORS
    855% HOME : FFINT "LNNENGAGED EEH
        AUIORS WILL EE TCTALED": FRINT
        "FOFi THE MOST FEECENT OBSEFV'A
        TION:."
    g\EO FFETNT "HOW MANY GESEFVATION
        S SHOULD EE": INFUT "INCI_UDE
        D" '; I!
85>0 IF 11 % C + 1 OF I 1< O THEN
            FFFINTT: FFIINT "VALUE MUST E
        E EE[WEEN 1 AND ";C + 1: GOTO
        8560
    E%GO FOF I = O TO I I .. 1
    8590U(0)=U(0)+VAL {T${I,4)}
    @(0)U(1)=U(1)+VAL (T$(I,7))
0610U(2)=U(2)+VAL (TS(I,S))
```

```
日GOOLI(S)=U(B)+VAL}(T$(I,G)
8&50U(4!=U(4) + VAL (T$(I,8))
E%40 NEXT I
865G F = 0
GO6O FOF I = O TO Z
{6,70 IF U(I) > = U(I + 1) THEN
        EOTO 8710
8680S S = U(I):U(I)=U(I + 1):U(I
        + 1)=S
```



```
    :C末(1 + 1) = Z$
0700 F=1
8710 NEXT I
0%OO IF FF== 1 THEN GO70 8650
B755 IF X去= "Y" THEN FFIINT D$:
    "FFi#1": FFITNT CHF'$ (12)
BTOO FFINT : FFINT "UNENGAGED EE
    HAUIOF"; SFC( E;):"FREQUENCY"
G%&゙FFBNT
8*G FOF I = 0 70 4
376'- J% C"$(I) = "M" THEN FFINNT
    "HOMT/TRANG": TAES(2G):U(I)
37%0 [F C&(I)= "S" THEN FFIINT
```



```
&/B# JF L゙$(1)= "D" THEN FRINT
    "DIGCIFLTNE"; TAB( 2G):U(I).
```



```
    "UNOMC/OBS": TAE: 26):U(I)
        ]F [名!l) = "(J" THEN FFINT
        "OUT OF FOOM": TAB( 26):U(I)
GONO NEXTI I
BQこe IF X直 = "Y" THEN FFRINT Dq;
    "FF&+G"
BGNO FFEINT : FFINT : INFUT "FFEES
    G FETUFN TO CONTINUE":M*
B%SE 607O 8910
B8%7 FEM
EG%E FEM SECONDAFY LEVEL ANALYS
    15
BAS% FEM
034O M$ = "WHAT IS SCHEDULED TIME
    7"L = \Xi: GOGUE 19000:AL =
        VAI. (XX央)
HBGi, IF (AL & AV(O) - 5) ON (AL
    AV(0: + S) THEN OF:10)=1
EGOM JF AV(1) > = 85 THEN FFINT
    : FFTNT "YOMF: CLIASS*G ENG.RA
    TE 1G GOOD": GOrO 6890
&A:(1F+ij|):= 1:OF(12)=:
REGO NFINT : FRINT "YOL SHOULD F'
    GOHABL.'Y TF:Y TO INCFEASE": FRINT
    " YOLIF: FNGGGEMENT FATE OF ";
    #゙い!人!"%"
gujus lN|HT : JNFUT "WHAT IS YOUUR
        FWGHGFFMENT FAGTE GOAL? ":EF
 \(5:\)
B70 IF（NG \＆AV（2）－S）OF（NG＞ AV（2）＋5）THEN OF（4）\(=1\)
日デッ FFINT ：FFINT＂FESULTING ST ．ENG．TIME GOAL IS＂：NG；＂MIN ．＂
69G4 FFINT：FFINT ：INPUT＂PFES S FETLIFM TO CONTINUE＂：M\＄
日车19 IF＂\(x \$=\)＂Y＂THEN FRINT Dक； ＂FFも井1＂
6711 IF＂\(X\)＝＂Y＂THEN FFINT CHFi （1．2）
8916 HOME ：FFINT：FFIN7
Gg9G FFIJNF＂YOUF TIME GOALS AFE： ：

B9Z0 FFINT：FFINT TAE（5）：＂ST． ENG．TIME＝＂：NG：＂MIN．＂
ES40 FFIINT：FFINT TAE（5）：＂ENG i ．FATE＝＂\({ }^{\text {EFF：}}\)＂\％＂
g9\％FFiNNT：FRINT TAE（5）：＂ALL OC．TIME＝＂：AL；＂MIN．＂
EDEE（F NG \(~\) AV（2）THEN OF（4）＝ 1.

EqE：IF AL \(\because\) GU（0）THEN IJF（S）\(=\) 1
日G：？IF：EFF ？ \(\operatorname{AV}(1)\) THEN QF（ \(b\) ）\(=\) 1
B7OO FFIMT D名：＂ELOAD CHAIN，ASEO＂
99\％（ WALLL S2O＂CONF．FAFIT4＂
89\％6 GO7O 19799
9990 END
IWiur FHENT：FFINT M
1．7010 LNFUT \(X X\) 末
1.702 OF LEN \((X X\) 宣）\(=0\) THEN FFINT
：FFINT＂NO ENTFY MADE．TFY A
GAIN．＂：FFINT：GOTO 18000
190 O IF LEN（KX\＄）\(\Rightarrow\) LHEN PRINT
：FFIINT＂TOO LONG．＂；L；＂CHAF
ACTERS ONLY．＂：FRINT ：GOTO 19000
19040 FETUFN
170 GO FFINT：FFINT M\＄
1 1900 INFUT XX
17100 IF LEN（XXW）＝O THEN FFIINT
：FFIINT＂NG ENTFY MADE．TRY A
GALN．＂：FFINT：GOTO 19080
19110 IF ASC（XX\＄）\＆ 78 AND ASC \(\{X X W) \& \gamma 89\) THEN FRINT
：FFINT＂ENTFY MUST BE YES D
F NO＂：FFINT ：GOTO 19080
1912い RETUFN
198GN FEEM FIND ZONE NZ．\(\$\) CORFES．
10 CHMS．ENG．TIME NG
\(198791=A S C(Y X \$)-64\)
198 厄⿱
\(19838(F O F=1=1\) TO K（I）+1
\(19 E 9\) IF NG © CA（I，J）THEN GOTO BESTCOFY AVAILABLE
```

19700 NEXT J
17GOE NZ$= EA$(I,J + 1)
18910 IF NZ$= "" THEN NZ$ = EA\$
(I,J - 1):J = JH: FETUFN
14520 NZ\$ = EA$(I,J): FETURN
19750 FEM EELOW ZONE
19940 IF AC ? = 80 THEN FFIINT
    : Fl:INT "YOU SHOUJD MOVE TO
    AT LEAGT THE AT LONE":J = 2
1795:; II AC & BO THEN FFINT : FRINT
    "YOL SHOULD MOVE TO THE ABOV
    E ZONE":J = Z:JH=JH - 1
19955 NZ$=EA$(I,J)
1.9960) FETUFN
17%G'S REM AT ZONE
1.7970 JF AC, = BO THE:TN FRINT
    : FFINT "IT"S O& TO FEEMAIN I
    N THE AT ZONE": FFITNT "DO YO
    U WANT TO:": FFFINT : FRINT "
    1) FEMAIN IN THE AT ZONE": FRINT
    * FFIINT "こ)MOVE TO THE ABOVE
        ZONE"
1897E IF AC, % = BO THEN FRINT
    " INFUT "FILEASE ENTEF 1 OF 2
    ".":AZक: lF UAL (AZ旃)
    1 ANO VAL (AZ$) \& % 2 THEN
G010 19975
109/E, If AC % = GO AND VAL (AZ
$, = ? THEN J = 3: FRINT "TH
    JS ZONE EEGINS AT ":CA(T,N)
1997% IF AC% = 80 THEN GOTO 1
    9990
199ESO JF AC & 8O THEN FFIINT : FRINT
    "YOU SHOULO NOVE TO THE ABOV
    E ZONE": Y = = 
1%9@5 N%क == EA$(J.J)
19夕%U FUETUFN
SOOGi; RLEV ABOVE ZONE
EOOOSF !RINT "DO YOU WANT TO:"
OOOIG FFTNN: FFINT "I)FEMAIN WH
EF:E YOU AFE IN THE ABOVE ZON
E"": FFINT "2)MOVE HIGHEF IN
IHE ABOVE ZONE": FFIINT : INFUT
"FIEGQE ENTEF: 1 OF: 2..":AZक:
[F VAL (AZ京) < > A AND VAL
(AZ\#) : > 2 THEN GOTO 2OO1
\#
OOGO FETURN
|F゙いまい
|ST
J.u!, RI:M GUMMFAFY DF COINFEFENGE
1001: IF X% = "Y" THEN FFITNT D\$
:"FF\&1": FFIN「 CHF*\$ (12)
WOA: FFENT : FFINT : HOME
10014 FFJNT TAE( la)"CONFEFENCE

10016 FFINT
10020 FFINT＂YOU HAVE IDENTIFIED IMFFROVEMENT＂：FRINT＂OFFOFT LINITIES IN THE FOLLOWING AFE AS：＂
1004 IF OF $(1)=1$ THEN FFINT： FFINT＂SFC（ 5 ）：＂FFIDF LEAFN ING：ADDFESSING＂：FFIINT SFC（ ㅌ）：＂STFENGTHS \％WEAFNESSES I N＂：FFINT SFC（ 5 ：＂UNIT FLA NS＂
10050 IF $0 F(2)=1$ THEN FRINT： FRINT SFC（5）：＂COVEFAGE OF CFITEFTON－WELATED＂：FFINT：SFC（
7）：＂CONTENT＂
10070 JF OF（ 3 ）$=1$ THEN FRNNT： FFINT SFC（ 5：＂MASTEFYY OF CONTENT UNJTS＂：FRJNT SFC： Б）：＂IN＂：NM：＂OUT OF＂：U：＂T OFICS＂
1005 IF OF（4）$=1$ THEN FFINT ： FFENT SFC：5：＂STUDENT ENG AGEL TIME＂
10100 IF GF（5）＝ 1 THEN FFINT： IF UF（5i $=1$ THEN FFINT ：
FFINT SFC（5）：＂ALLOCATED）T LME＂
1O110 JF OF（6）＝ 1 THEN FRINT： FFINT SFC（ 5 ）：＂ENGAGEMENT FHTE：－…＂：FFINT SFC：7 ：＂MOS T FFEGUENT UNENG．EEFH．－－－＂ （））
1 BC ［F ASC（X F$)=99$ THEN FRINT

1世I UTAB 24：JNFUT＂FFESS ©FET UFN：TO CONTINLE．．．＂：EL＿
101：HCME
 WOULD YOU LIKE TO IMFFOVE IN ？
 AFINING：ADDFESSING＂
1014．FFINT SFC（ 8）＂STFENGTHE A ND WEARNESSES IN＂
10150 FRINT SFC：8）＂LESSON FLAN s＂
101E FFINT
1016，FFINT SFC（5）＂2）COVEFAGE UF CFITTEFTON－FELATED＂
101\％FFINT SFC（ 日）＂CONTENT＂
1017 FFFNT
101 OO FRINT SFC（： OI CUNTENT UNITG＂
1013）FliINT
1OLO FKINT SFCC（ シ）＂4）STUDENT ENGAGED TIME＂
1015 FHINT
JO1\％FFINT：FFINT SFCC（5）＂5） ENTEF YOUF OWN COMMENTS＂
1019：FFIINT

```
1u193 FFINT SFC( 号)"G) END CONF
    FFFINCE"
|Q(m) F'HINT : FHEINT : FRINT "YOU
    Fi SELECTION:""
1U*!1 KOW = FEEK (S7): VTAB ROW:
        HTHE 1%
```



```
1UN(1', jF VAL (S古) \therefore 1 DF VAL (
```


$102 G$ FFINT S\$
10207 VTAB 24: HTAB 1: INFUT "FR
ESS 〔FETUFN» TO CONTINUE..."
; EL ${ }^{\text {a }}$
10210 ON VAL (S\$) GOSLE 11000,1
$2000,13000,14000,15000,25000$
10215 GOTO 10122
10290 HOME : FFIINT "THIS IS THE
END OF ": FRINT "THE CONFEFE
NCE FFUGOFAM."
1.OG FFIINT : FFIINT "TWO CONFEFE
NCE TASLS FEMAIN": FRINT "TO
GE COMFLETED."

, CHODSE THE AREAS THAT YOL
WANT": FFINT SFC(9):"TO IM
FIFOVE IFOON"

, DESCFIEE THE IMFROVEMENT F
LAN:
1- FFIINT SFC( 9 :"INDICATING
WHAT, WHEN,": FRINT SFC: 9
:"WHEFE, AND HOW."
$10 \div 40$ END
11000 HOME : FFRJNT SFC( 5) "SUGG
ESTIOMS FOR IMFFOVEMENT IN"
110 FFFINT GFC( $\because$ ) "DETEFMINING
STFENGTHS AND WEAKNESSES"
1100 D D (L(5) + 20) = ""
i100; D क $(\mathrm{L}(5)+21 ;=4 \cdots$

$1101 ;$ FOF $x=1$ TO 39
1.0NO FRINT "*":

1104: F゙FINT: FRINT
110SG FFINT " 1 ) DETERMINE FFIOM L.
AS' YEAR"S 1 TEM"
11060 FFINT SFCS E: "ANALYSIS OF:
GFOULF ANALYSIS REFOFT"
$11070 \quad$ IINT SFC: $\because$ "FFOM STANDA
(ぃ) ZED TEGケ"
1107天 FKiN1

AST YE゙AF'S TEST"
1. 11世木, FFINT
1. 1.19 FFINT $\because \because)$ DISCUSG WITH LAS
1 YEAF: S TEACHEF: (5)
1 WOMS FH:LNT
ILOM FF:NT "4) GIVE DIAGNOSTIC
11110 FKiINT SFC（ 3 ）＂YEAF＂
111\％－U111 FIRINT＂ENTEF UF TO THFEE 5TFATEGIES，OF＂
1114．FFIINT＂FFESSS \＆F：TO FETURN
TD MENU＂
1．11：3 VIAE 22：HTAE SO
1115＇， $\mathrm{C}: \mathrm{O}: \mathrm{X}=\mathrm{O}$
1．11ためC＝C＋1
$1117 \mathrm{IF} \mathrm{C}=4 \mathrm{THEN} \mathrm{C}=0:$ GOTD1120
1118：UTAE 22：HTAE $X$ ：GET A叓
11190 IF $A={ }^{\circ} \mathrm{F}^{\prime \prime}$ THEN GOTO 11200
11181 IF UAL（AW）\＆ 1 OF VAL（ $A(\$) \geqslant 4$ THEN GOTO 11180
11192 FFINT A\＄
11195 IF $C=1$ THEN D $4(L(5)+20$）＝A事：$X=B$
11176 IF $C=2$ THEN D $\ddagger(L(5)+21$
11． 9 IF $C=3$ THEN $D \$^{(L 5}(5)+22$）$=A \Phi: X=\Xi 9$
1119G GOTO 11160
$110 \mathrm{VTAG} 24: ~ H T A B 1$
11210 FOF $Z=1$ TO 2OOO：NEXT $7:$
FETUFN
1天OM：HONE ：FFIINT SFC（ 5）＂SUGG
ESTIONS FOR IMFFIOUEMENT IN＂
1200t U\＄（L（5）＋24）＝＂＂
1200＇Li（L（5）＋25）$=" "$
$1 \because \mathrm{O}$（ $\mathrm{L}(5)+26)="$
1玉＂）FFFIN！SFC！14う＂COVEFAGE＂
1．
y－OGG FFJNT＂世＂
1204 NFXT
1：On FFINT ：FFINT
1．$\therefore$ © $\mathrm{FRINT} " 1)$ GFEND LESS TIME
ON SKILLS RELATING＂
FFIDG LEAFNING STFENGTHG＂
$120 B i \quad F F I N T$＂2）FEAFFANGE TOFIGSTO TEACH UNTESTED＂
12Oタ1）FFINT SFCi $\quad$（SFILLS AFTEF Tだ
1ヵ10G FトJNT＂צ1 COMEF ONLY COFESHILLS IN EACH＂
〕こり1 10 FVINT GFC（ $\Xi$＂CHAFTEF＂

E GFI AGIDE FOF＂

1．214：FAlNT＂S）JNCFEASE GENERALFACE：OF JNSTFUCTION＂1：1S：FI：INT＂G）FEGEARCH MOST EFFICJENT ANO＂EACHING FOF SFECIFIC＂FFINT GFC（ $\quad$ ）＂TOFICS＂FFINT＂7）GFOUF STUDENTS $\mathrm{H}^{\text {：}}$

```
    OMOGENEOUSLY"
    121:3 VIAB 2.
    12%MO F'FINT "ENTEF: UF TO THFEE S
    TFATEGIES"
    12こ10 FGINT "FFESS &F` TO FETUFN
        TG MENU"
    1291:C=0:X=30
    1\because4! VTAE 22: HTAB }
    1\because4G = C + 1
    12%46 IF C = 4 THEN GOTO 125OO
    1.अ5O GET A$
    12260 IF A希 = "F'" THEN GOTO 125
        OG
    1227G IF VAL (A$) & 1 OF VAL (
    A$) > }7\mathrm{ THEN GOTO 122SO
    12280 FFINNT A$
    12290 IF C = 1 THEN Dक(L`(5) + 24
    == A婁:X = SE
    12\XiOO [F C=2 THEN D$(L(E) + 25
    ) = A古:X== SO
    1%10 JF C= S THEN D$(L(5) + 26
        = 必:X=39
    \E|GFEINT
    12玉20 G0T0 12240
    12500 FOF: }z=1\mathrm{ TO 2OOO: NEXT Z:
        FETUFN
    1BOOO HOME : FFINT GFC: 5) "SUGG
        EGTINNE FOF IMFFOUEMENT IN"
    1:M01 DS(L (5) + 2日)=""
    |M% D束:L(5) + "%) = ""
    1.00S D# (L(5) + S0) = ""
    #O10 FFJNT SFC: 8: "MASTEFY OF
        GONTENT UNTTG"
    130%@ FOF Z = 1 TO 3%
    &OEM FFINT "*":
    130&! NEXT }
    SW4S FFIN: : FFINN
```



```
        CCE:3: FATTELNNS-"
    L (GU FF(NT "S) DETEFMINE UNIT T
        ES1 'FiL.1DITY"
    !%%% FH:NT SFC: ジ)"OF ALIGNMEN
        | WI I-i LNGTFIICTION"
    JOBM I'H'JNT "#; HOMOGENEOUSLY GF
        10N GT!JDNTS FCF"
```



```
        HNL"(H-' UFIOS LEAFNING"
```



```
    1.:ヶ0, H1:J1:1 "4: LINWEF STANDAFDS
```




```
        .|1FrトサM| F=FWWADH"
        1.11. : |.N| "& :-i.|W FAC)NNG"
        1:1.: 1::4ii "', INUFEASE MOTIVAT
        :(`口
```



```
                                    48
```

    FF%|GGIEG, OF''
    ```

```

    |u MEN|!"
    ```

```

1\because:\becauseULEO+1
i \thereforelij lï C=4 THEN C=O: GOTO

```



```

1\because(0) ]F AF = "F" THEN GOTO 1SS
"•",
i \therefore.'", |l YAL (Aक) < 1 OF, VAL (
A$) }\because\mathrm{ THEN GOTO 1S19O
1\because20 FFINT A$
1已OO IF C = 1 THEN D\$(L(S) + 28

```

```

13240 IF C = 2 THEN D$(L(5) + 29
        ) = Aक:X= SG
13250 IF C = S THEN D$(L{5) + \XiO
) = A$:X = = %9
13260 GOTO 13175
1SFOO FOF Z = TO 2OOO: NEXT Z:
        FEIUFN
140OO IF C& (0) = "M" THEN GOSLIB
    150%0
14OQ JF C&(O) = "U" THEN GOSUB
    1.6000
140SO 1F C&(O)="口" THEN GOSUB
    17006
14"140 JF Cक(0) = "G" DF C.क(O)=
    "D" THEN GOSUE 18000
14041[抽(1.(#)+32)=""
1404` D古(L(5)+\Xi\Xi)=""
1404% D$(1)(5) + 34)=""
140%0 VTAE 21
14000 FFINT" "ENTEF UF' TO THFEE S
TFATEGIES, OF"
14070 FFINT "FFESS \&F'% TO FIETUFIN
TO MENU"
14080 E = 0:X = 30
140%CO=C+1
1410) IF C = 4 THEN GOTO 14999
14110 VTAB 22: HTAB X
14:20 GET A\$
14130 IF A\$ = "Fi" THEN GOTO 149
79
14140 IF VAL (A$) & OF VAL (
        A$) : 5 THEN GOTO 1412O
14150 FFINT A\$
14160 IF C = 1 THEN D\$ (Li5) + 区2

```

```

    14170 IF C=2 THEN D& (L (5) + 子S
        ) =: At:X=36
    141B0) 1FC = S THEND車(L(E) + - 4
        :=At:X=3G
    14.190 GOTO 14070
    14990, FOF 7 = 1 TO 2000: NEXT 7:
        FEETUF:N
    14.9O'F FGF Z == TO 2OOO: NEXT Z:
        FETIDFN
    ```

1GOON HOME ：FRINT GFC（5）＂SUGG ESTIONS FOF：IMFFOVEMENT IN＂
1G10 FFIINT＂ENGAGEMENT FATE－MAN AGEMENT／TFANSITION＂
15UGF FOFi \(Z=1\) TO 39
15以ア FFINT＂＊＂；
1．OU4 FIIXT Z
1以心灾 FRINT ：FFINT
j：inery FRINT＂1）HAVE MATERIALS AND SUFFLIES FEADY＂
1507 O FRINT SFC（ \(\because\) ）＂IN ADVANCE＂
15075 FFINT
1SUF FFiINT＂2）USE MOFE FOUTINE
\(S\) AND STANDAFD＂
15OFO FFIINT SFC（ ङ）＂FFOCEDUFES＂
15095 FFINT
15100 FFINT＂亏）FEDUCE TIME STLIDENTS WANT FOF HELF：＂
15110 FFINT GFC（ \(\because\) ）＂ON NEW ACTI VITY＂
15115 FFFNT
J11／FFINT＂4）MINTMIZE INTEFFU
FIOME＂
1311GFFFINT
」GI＂G FFINT＂G）SET TIME LIMITS＂
15J：O NETUFN
16OOO HOME ：FFITNT SFC，5）＂SUGGESTIUNS FOF IMFFOVEMENT IN＂
1 O1！FFINT＂ENGAGEMENT FIATE－UND
COUFIEDIOBSERVING＂
1．GM，FOF \(Z=17037\)
1与OE FFENT＂＊＂；
16O4B NEXT Z
I OEM FFINT ：FFINT
1 G日G FRINT＂1）FLAN CONTINUOUS
HCTIVITIES
1ヵック FFINT
\(160 B 0\) ，FFITNT＂2）MOUE AFIOLIND FOOM
168 FWRINT
16 GOG FFINT＂S）FEINFOFCE GOOD E1GOOF FRINT
16100 FFIINT＂4）FESTFUCTLIFE FHYS
IC＂AL ENUIFOINMENT＂
17000 HOME ：FRIINT SFC：5）＂GUGGEGTIONS FOF JMFFOUEMENT IN＂
\(1701 \because\) FFINT SFC：7）＂ENGAGEMENT
RAIE OUT OF FOOM＂
1O4U NEXYZ
120 SG FFiJNT：FFINI1．ibe FFINT＂1）REFUSE FEFIMISSIII FOF UNNEXCESSAFIY＂

17080 FFINT
17090 FFINT＂2）ALLOW ONLY 1 STU DENT AT A TIME TO GO＂
1710 FRINT SFC（ \(\underset{\sim}{\circ}\)＂TO THE LAVO FATOFY＂
17500 FRINT
175 F＇GINT＂．\(\because\) ）TIGHTEN SCHOOL F＇ （BL＿SESES＂
18．On HCMME ：FRINT SFC：5）＂SUGG ESTIONS FOR IMFFOUEMENT IN＂
1BOIG FFIINT＂ENGAGEMENT FATE－SOC IALIZJNG／DISCIFLINE＂
18020 FOF：\(Z=1.7039\)
18030 FRTNT＂＊＂：
18040 NEXT Z
18OSG FFSNT ：FFINT
1 GOC FF：INT＂1）SEFAFIATE STUDENT 5＂
GOTE FFINT
1．WES FFINT＂2）STATE EXFECTATIO NS AND MONITOF＂
1GOOG FFINT SFC（ \(\quad\) S）＂EEHAVIOF＂
18100 FFINT
1aj10 FFINT＂S）FEINFORCE GOOD E EHAVIOF：＂
1． 12 FETULIFN
 \(=1 " 4\)


171\％！FFINT＂FLEASE ENTEF：YOUF C OMMENTS EEELDW：＂
1.720 FHINT：FFINT

1．ひO： 8 FOS FLD，6， 36

148BFFINT
\(19 \%\) FOG FLD， 6,37


\(19250 \mathrm{D} \$(\mathrm{~L}(5)+\) E7）\(=\) W2\＄
17.60 VTAK 24：INFUT＂PRESS GFET UFN：TO FETUFN TO MENU＂：EL\＆
17379 FETUFN
2与（10）IF X （4）：＂F＇H゙\＃1＂
25OOG HOME ：FFINT：FFINT＂THIS IS THE END QF THE CONFERENC E＂
250，FFFINT＂FROGRAM．YOLJR DATA IS EEING STOFED AS＂
2EO2！FFINT＂FOLLOWS：＂



：50：－40\＄（1（5）＋27）\(="\)＂
2らOジ FF：INT




```

    ZSUSO \(\because\) FRTNAME, O
    2GO6O \& FFINT , D\$ (L (5) + 10)
    25cio ? FGS FLD, 6,11
    25080 \& FRTNAME,
    \(25090 \%\) FFIINT , Dक (L (5) + 11)
    ```

```

    2610\% YF DF(1) = 1 THEN D \((L(5)+\)
    \(1^{(f)}=" x "\)
    2Fijo IF OF(2) = 1 THEN D\$ (L (5) +
$\because(\because)=" X "$
Mロ12 J JFOF(4) = 1 OF OF(5) $=1$ OF
QF' $(t)=1$ THEN D $\$(L(5)+\underset{S}{ }(5)$
$=$ "X"
2与1ざ) D\& (L (5) + 12) = STFiक (CT)
25140 D (L (5) +13 ) = STFi $(\mathrm{AV}$ (2
1)
25250 Do (L (5) + 14) = STFit (AV(0)
))

```

```

    ) ;
    ```

```

252GODक(1(5) + 17) = STF: (AL)

```

```

25295 D\$(L(5) + 区5) = Cक (0)
2GOO $\because$ FOS FLD, 6,12

```


```

玉与~い 2 FGS FLD, 6,13

```

```

2FE40 \% FRTNAME, 0
ZEC, FFINT, D\$ (L (G) + i
2GO $\because$ FOS FLD, 6,14
$25 \% 79$ FFTNAME 0
2ジロQ $\because$ FFINT, Dक (L (5) + 14)
ABF: $\because$ FOS FILD, 6,15

```

```

25410 \& FFINT, D\$ (L. (5) + 15)
:15 FHENT
2(34*") $\%$ FOG FLD, 6,16
254E: 3 FFTNAME, $O$
$\because 440$ FFINT, $D \$(L(5)+16)$
254 EH ? FOS FLD. 6,17
25460 \& FFTNAME: O
25470 FFINT " "; D虫 (L (5) + 17) :
$2 G 480 \%$ FOS FELD, 6,18
25490 FFFTNAME, 0
25 EOO OFINT, D中 (L (5) + 1日)
2505 FKINT
25510 8 FOS FLD, 6,19
"EGO \& FFTNAME, O
25心. $\%$ FFINT, $D \$(L$ (5) +19$)$
$2554 \%$ FOG FLD, 6,20

```

```

    25560 FFFINT, D\$(L (5) + 20)
    2以G, \& FOS FFLD,6,21
    \(255 B O \quad \because\) FFTNAME, O
    5.2
    ```

```

    \(\because 5595\) FFFINT
    "ت゙G1! FFINT "COVEFAGE ":
    2560
250.0

25650
25600
25670
25680
25670
2579
25710
2らブす
25700
25740 \＆FFINT $D \$(1 \leq(5)+26)$
$25: 45$ FFINT
2GyEO $\because$ FOG FLD，6， 27
2576，$\because$ FFTTNAME，$O$
2ミフ7！\＆FFINT，D中（L（5）＋27）
25786
25790
ESE0 \％FFINT ，D中（L（5）＋28）
2GRIU \＆FOS FLD， 6,29
25ga＠$\because$ FFTNAME，O
SEGO Q FFINT D D （L（5）＋27）
$\therefore 5940$ FOS FLD， 6,30
ZFEFi $\because$ FFTNAME，
$\because E 60$ FFINT ，D中（L（5）＋उO）
$\therefore 536 \%$ FRINT
258\％$\%$ FOG FLD， $6, ~ उ 1$
$258 E i \quad \%$ FRTNAME，$O$
 M9O0 3 FOS FLLD，By SO
בE51G \＆FFITNAME，$O$
2G马の \＆FFINT，D中（L（5）＋玉2）



$25 \%$ FOG FLD， 6,54
2Eヶ7！\＆FFTTNAME，O
MG日G 晃 FFINT，D\＄（L（5）＋34）
2末Oめ示 FFINT
2rgaj \＆FOG FLD，b，玉
26OU．$\because$ FFITNAME，O

26 （2）FOS FLD， 6,36
CBSO \＆FRTNAME，O
＂6OE FFJNT
26O4i：\＆FRINT，D\＄（L（S）＋36）
$\therefore 7 \mathrm{BO} \% \mathrm{FOG} F \mathrm{FD}, 6, \square$
2？OO $\because$ FFTNAME： 0
$2707(3$ FFINT，D\＄（L．（5）＋उ7）
$\because \Rightarrow$ OE！$\because$ FECUFD， $6, D \$(1)$


[^0]:    
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