K201: The Computer in Business

Third Departmental Exam (C)

December 1, 1981

Signature _____

Name _____

Student Number _____

Instructor's Name _____

Section Number _____

This exam is worth 100 points. Although ample time is allowed, the student is advised to allocate his time wisely. If your response to a question requires more writing area, continue your response on the reverse of the page.

If you require assistance, raise your hand and a proctor will assist you at your seat.

_____ 1. The operating system will do all of the following except

a. control operation of equipment and programs.
b. translate source programs into machine language.
c. accumulate statistics on use of the computer.
d. determine job processing sequence.
e. none of the above.

_____ 2. The complex process of collecting messages from and sending replies to terminals is performed by

a. service programs.
b. data management software.
c. terminal handling software.
d. communications interface software.
e. none of the above.

_____ 3. A programmer who writes a payroll program or an accounts receivable program for an organization is called

a. a systems programmer.
b. a support programmer.
c. an applications programmer.
d. a maintenance programmer.
e. none of the above.

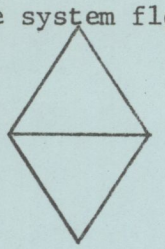
_____ 4. Which of the following correctly presents the relationship between a system flow chart and a program flow chart?

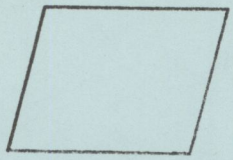
a. In a system flow chart the outline symbols represent devices, while in the program flow chart they represent steps in a computer program.
b. In a system flow chart the arrows represent procedures, while in a program flow chart they represent the flow of electrons in the wires of the computer.
c. In a system flow chart the computer processing symbol corresponds to a complete program flow chart.
d. In a program flow chart each outline symbol represents a complete program, while in a system flow chart the outline may represent processing steps, media or devices.
e. none of the above.

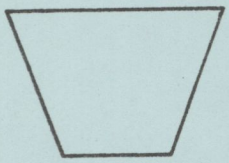
_____ 5. One approach to controlling the accuracy and integrity of data is the use of processing controls, which include all of the following techniques except

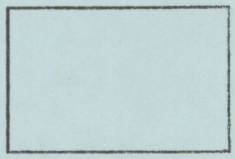
a. the establishment of control totals and record counts for batches of documents.
b. the use of prenumbered forms, each of which is accounted for in the procedure.
c. separation of duties so that two or more people must collude in order to steal something and falsify records.
d. periodic duplication of files so that they can be reconstructed if destroyed.
e. none of the above.

_____ 6. The system flow chart symbol for sorting is

a. 

b. 

c. 

d. 

e. none of the above.

_____ 7. Which of the following is not an example of support software?

a. language translators.
b. communications software.
c. the operating system.
d. programs to compute support payments to welfare mothers.
e. none of the above.

_____ 8. How many total memory locations would be reserved by the following statement?

DIMENSIØN SALES(3,9), RATE(10,40), TØT(50)

a. 3
b. 477
c. 5
d. 112
e. none of the above.

_____ 9. In a table look up on equal, normal exit from the table look-up DØ loop indicates that

a. the test value of the DØ statement is too small.
b. there is a syntax error in the program.
c. the argument array contains an element whose value equals the search argument.
d. the argument array does not contain an element whose value equals the search argument.
e. none of the above.

_____ 10. The MNF (E=2) card which we used in each of our lab programs is an example of what language?

a. BMD
b. FØRTRAN
c. job control language.
d. machine language.
e. none of the above.

_____ 11. When using canned programs (such as the BMD package) the program itself is obtained from the

a. software library.
b. documentation.
c. FORTRAN compiler.
d. reference manual.
e. none of the above.

_____ 12. Which of the following statements is incorrect FORTRAN?

a. DIMENSION A(M),B(J)
b. READ(5,10)X(I), X(I + 1), X(I + 2)
c. WRITE (6,1) A(4), A(5), A(10)
d. DIMENSION CAD (100,2)
e. none of the above.

_____ 13. Consider a table composed of an array NUM of item numbers, an array P of prices, and an array C of unit costs. We wish to look for the value of the variable INUM in the item number array so as to determine its price and unit cost. Then P and C are called

a. search arguments.
b. arguments.
c. table values.
d. functions.
e. none of the above.

14. In this problem you will be concerned with portions of a program to produce a report entitled Sales by Salesman using a table to accumulate the report without sorting the input cards.

(9 pts) a) In the initialization part of this program we will establish a table consisting of the arrays ISM and TSLS. ISM will be read from a deck of table cards in which the salesman numbers are punched in columns 1- 4. This deck is preceded by a parameter card containing the number N $\leq$ 300 of cards in the salesman number deck punched in columns 1-3. Write all the FORTRAN statements required to begin this program, to read the table cards and establish the array ISM and to initialize the array TSLS to zero.

(7 pts) b) In the main loop of this program we take the salesman number NSM and sales amount S from an input card and use a table look-up on equal to find the salesman number in the array ISM and add S to the proper element of the array TSLS. If the salesman number NSM is not in the array ISM, stop. Assuming that part a) above has been completed and the data card has been read to obtain NSM and S, write the FORTRAN statements to perform the table look-up and other operations described above.

(7 pts) c) In the termination portion of this program we wish to print the Sales by Salesman report from the arrays ISM and TSLS in the following print positions:

Print Positions	Description
1-4	Salesman number (from ISM array)
8-15	Total Sales (of form XXXXX.XX from TSLS array)

Then terminate this program. The report should be single spaced, and you do not need to print the headings.

(10 pts) 15. Consider the following six data cards.

Field Name:	Employee No.	Dept. No.	Operation Code	Hours Worked	Pay Amt.
Card Columns:	1-6	9-11	12-15	16-18	19-23
Card 1:	042222	343	9901	$10_{\wedge}3$	$40_{\wedge}75$
Card 2:	715000	102	1523	$8_{\wedge}2$	$28_{\wedge}00$
Card 3:	224887	475	9901	$14_{\wedge}0$	$63_{\wedge}40$
Card 4:	042222	102	4127	$5_{\wedge}1$	$17_{\wedge}90$
Card 5:	224887	343	1523	$16_{\wedge}0$	$80_{\wedge}00$
Card 6:	042222	343	9901	$12_{\wedge}5$	$87_{\wedge}50$

Including headings, show the following summary report produced from the above six data cards:

Hours Worked by Operation Code.

16. General Motors Corp. has the following data card punched for each car sold in the state of California.

Card Columns	Description
1-5	Zip code of purchaser (up to 4000 zip codes)
6-10	Dealer Number (up to 2000 dealers)
11-13	Model Number (up to 300 models)
14-19	Dealer profit on car
20-26	Sale price of car

(12 pts) a) Prepare a system flow chart (using our standard symbols and conventions) to produce a Total Sales by Zip Code report and a Total Sales by Model report using sorting to organize the data.

(10 pts) b) Prepare a system flow chart (using our standard symbols and conventions) to produce these same two reports using only one computer run.

(6 pts) c) Describe all tables or arrays you use in the system presented in part b. Include a description of the data in each array and the size of the array.