G. Resinovic

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K201 Quiz 5 B

(2 pts) 1. There are two categories of software. One is called the support software and the other is _____software.

(2 pts) 2. The operating system is told how to process a job by means of a _____ _____language.

(4 pts) 3. Translators are a part (or element) of support software. Name two other elements of support software:

_____ _____

(4 pts) 4. FINISH card is the last parameter card for a BMDID program. Name two other parameter cards necessary to run this program:

_____ _____

(2 pts) 5. An example of _____programs is BMD.

(4 pts) 6. In summarization process, data cards must be _____ according to _____ _____.

(2 pts) 7. If we want to punch a summary card in summarization program, we must include a WRITE statement between _____.

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K201 Quiz 5A

(2 pts) 1. The language we use to prepare control cards is called a _____ _____ language.

(4 pts) 2. There are three major sources of software, one of them being the computer manufacturer. Name the other two sources of software: _____ _____.

(2 pts) 3. Programmers who produce and maintain the user programs are called the _____programmers.

(2 pts) 4. BMD is an example of the _____program.

(4 pts) 5. We need five parameter cards to run BMD5D program. Name two of them: _____ _____

(4 pts) 6. What is information?

_____

_____

(2 pts) 7. If we want to print a line for each input card in summarization program, we must include a WRITE statement before _____.

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K201 - Quiz 1A
9/10/81

Each of the following questions counts 2 points.

1. Memory is a part of CPU. Name two other functional units which belong to CPU. _____

2. The physical components that make up the computer are referred to as _____.

3. Programs written in any programming language are called _____ programs. Compiler translates such programs into a _____ language program.

4. A FØRTRAN statement that is not translated into any instruction is called a _____ statement.

5. What is the maximum number of characters that can be recorded on a single punched card? _____

6. When an alphabetic data item doesn't fill the entire card data field, we usually align the data to the (which side) _____ and leave any blanks on the _____.

7. Identify the mode (or explain what is wrong if incorrect) of each of the following numbers.

   a) 3250000.

   b) 0.0

8. Each of the following are considered to be a FØRTRAN variable. If any of them is valid, indicate the mode, otherwise explain why it is not valid.

   a) CLASS#

   b) ACCOUNT

9. Perform the following calculations, using the FØRTRAN rules of arithmetic.

   a) (2-7/3)*2 =

   b) Let A=2.5, B=1., C=3.5
      C*(A+3.*B)-B*C =

10. Indicate the errors, if any, in the following FØRTRAN expressions.

    a) (ALPHA-(BETA*R**2.)/-GAMMA)/3*OMEGA

    b) (I+3)(I-5)/KAPPA-(1+KAPA**2.5)

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K201 - Quiz 1B
9/9/81

Each of the following questions counts 2 points.

1. Control unit is a part of CPU. Name two other functional units which belong to CPU: _____

2. The programs that tell the computer what to do are referred to as _____.

3. Compiler translates the procedure-oriented language into _____ language. When program is translated, it is called an _____ program.

4. A FØRTRAN statement that is translated into one (or more) instruction(s) is called _____ statement.

5. According to the IBM card coding scheme, each letter is represented by (how many) _____ punches and a numeric digit by (how many)_____ punches in a card column.

6. When a numeric data item doesn't fill the entire card data field, we leave any blanks on the (which side) _____ and align the number to the _____.

7. Identify the mode (or explain what is wrong if incorrect) of each of the following numbers:

   a) -3.1459

   b) 0.0

8. Each of the following are considered to be a FØRTRAN variable. If any of them is valid, indicate the mode, otherwise explain why it is not valid!

   a) CASH$

   b) PAY-OFF

9. Perform the following calculations, using the FØRTRAN rules of arithmetic.

   a) (7-5/4)/3 =

   b) Let A=3.5, B=0.5, C=6.
      C*(A+5.*B)/(A-B)

10. Indicate the errors, if any, in the following FØRTRAN expressions:

    a) (A-(B*C**2)/2.6)***3

    b) I+5*(KØNTØ-7K)**(0.5)

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K201 - Quiz 1C
9/9/81

Each of the following questions counts 2 points.

1. ALU is a part of CPU. Name two other functional units which belong to CPU:

   _____

2. In a memory, each register is identified by a number, called its _____.

3. Instruction which cause the computer to execute an instruction other than next in a sequence is called a _____ instruction.

4. Before it is executed the object program must be _____ into the computer memory.

5. The convention that associates a unique combination of punches with each character is called the punch card _____ _____.

6. There are (how many) _____ rows and (how many) _____ columns in a punched card.

7. Identify the mode (or explain what is wrong if incorrect) of each of the following numbers:

   a) -135

   b) 2,337.05

8. Each of the following are considered to be a FØRTRAN variable. If any of them is valid, indicate the mode, otherwise explain why it is not valid:

   a) K201

   b) BUDGAT

9. Perform the following calculations using the FØRTRAN rules of arithmetic:

   a) (8-1/2)/3 =

   b) Let A=2.5, B=0.5, C=5.
      C*(A-2.*B)/(A-B)

10. Indicate the errors, if any, in the following FØRTRAN expressions:

    a) (7*MEMO/(HOUR-2))**2

    b) (A-(B*C**2)/-3.3)**3

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K201 - Quiz 1D
9/10/81

Each of the following questions counts 2 points.

1. ALU is a part of CPU. Name two other functional units which belong to CPU:

   _____

2. A memory register that will store only one character is called a _____.

3. Each machine language instruction is composed of two parts. They are:

   _____

4. When a program is translated into a machine language, each variable name is associated with a specific _____ in the computer memory.

5. What is the maximum number of characters that can be recorded on a single card? _____

6. The arrangement of the card data fields in a particular application is called the _____.

7. Identify the mode (or explain what is wrong if incorrect) of each of the following numbers:

   a) 1000000.00+

   b) 0,000271

8. Each of the following are considered to be a FØRTRAN variable. If any of them is valid, indicate the mode, otherwise explain why it is not valid.

   a) SUMARUM

   b) GØØØ!

9. Perform the following calculations using the FØRTRAN rules of arithmetic.

   a) (2-7/3)/5 =

   b) Let A=2.5, B=1.5, C=3.
      C*(A+2.*B)/(A-B) =

10. Indicate the errors, if any, in the following FØRTRAN expressions.

    a) (A-(B+(C-D*(3*E-C)))-5.D)

    b) (I-27)**2-(K/L+1)**3(N-1)

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K201 - Quiz 3A

For each employee in ABR company a card is punched with the following data:

Card Column	Description	Form	Variable Name
1-6	Employee #	Integer	NUM
10-14	Weekly gross pay	XXX^XX	WGP

The last card has a negative number in columns 1-6. Each week these cards are processed by computer to calculate net pay and print a line with employee number, gross pay and net pay for each employee. Also, some summary results are printed on a separate page after all the employees' cards are processed.

Net pay = gross pay - income tax

where: income tax is 10% of gross pay if gross pay is less than $300

is 20% of gross pay if gross pay is between $300 and $500 inclusive

is 30% of gross pay if gross pay is over $500

Prepare a flowchart for a program to calculate net pay, print a line for each employee, and print the number of employees with gross pay less than $300 and their average net pay.

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K201 - Quiz 3B

For each employee in BEC company a card is punched with the following data:

Card column	Description	Form	Variable Name
5-11	Employee #	Integer	NE
15-19	Weekly gross pay	XXX$\wedge$XX	GPE

The last card has a negative number in columns 1-6. Each week these cards are processed by computer to calculate net pay and print a line with employee number, gross pay and net pay for each employee. Also, some summary results are printed on a separate page after all the employees' cards are processed.

Net pay = gross pay - income tax

where: income tax is 10% of gross pay if gross pay is less than $250
is 15% of gross pay if gross pay is between $250 and $450 inclusive
is 20% of gross pay if gross pay is over $450

Prepare a flowchart for a program to calculate net pay, print a line for each employee, and print the number of employees with gross pay over $450 and their average gross pay.

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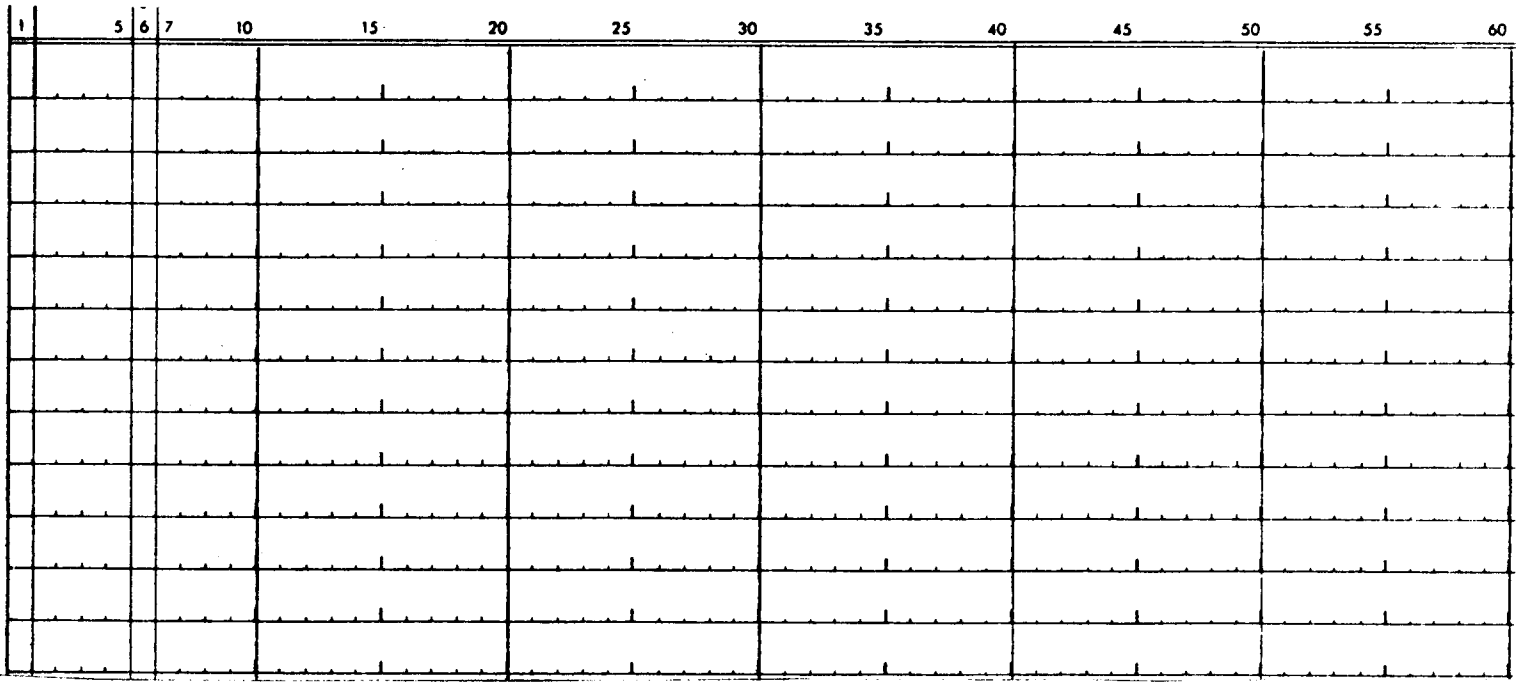
K201 - Quiz 4A

(10 pts) 1. A particular product is composed of 800 parts. The manufacturer has two warehouses for the spare parts of this product, west warehouse (WW) and east warehouse (EW).

A card is punched for each item (spare part) with the following card layout:

Card Column	Description	Variable Name
1-6	Item #	INØ
20-23	Quantity on hand in WW	WW
24-27	Quantity on hand in EW	EW

Write all the necessary FORTRAN statements to reserve the space in the memory for 3 arrays (INØ, WW, EW) and read the data from the cards into these arrays.



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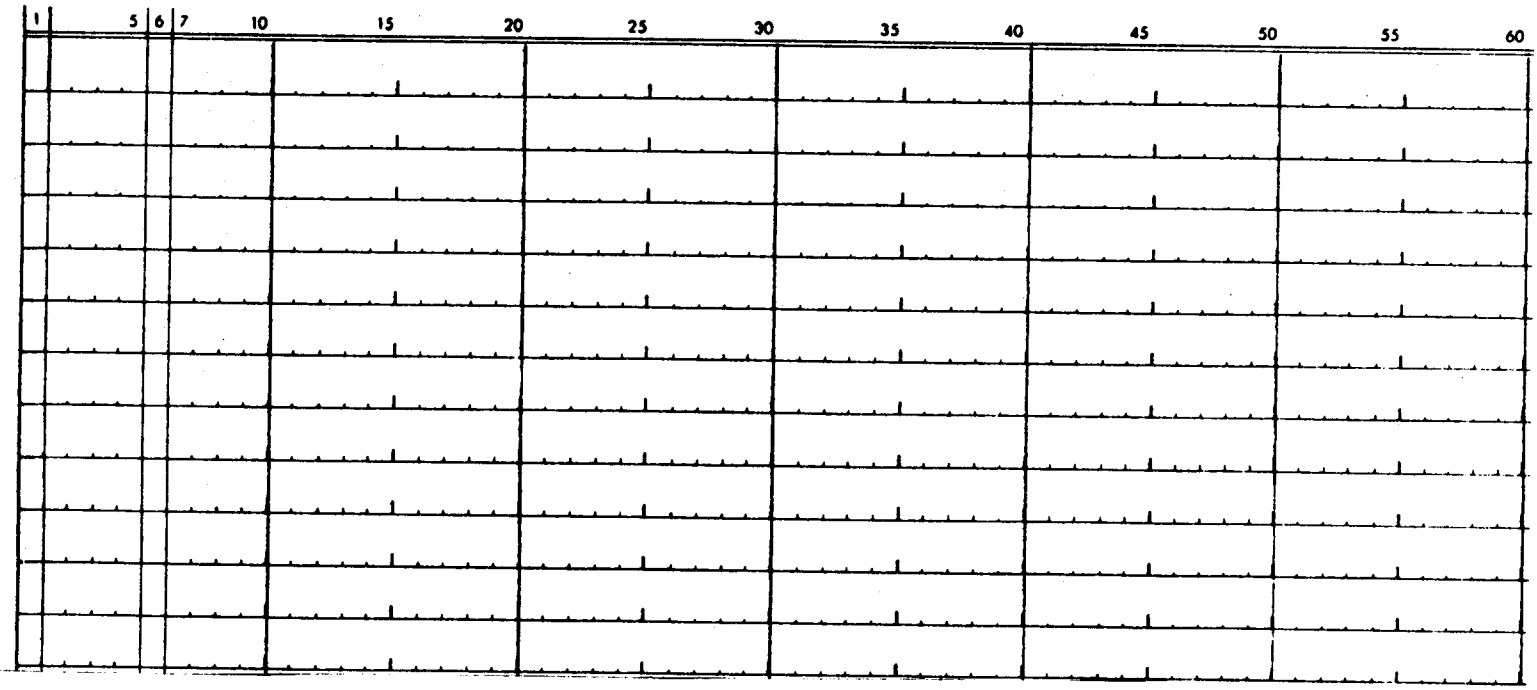
K201 - Quiz 4B

(10 pts) 1. There are 1350 different items in a particular warehouse. For each item a card is punched with the following card layout:

Card Column	Description	Variable Name
1-6	Item #	N
16-19	Quantity on hand	QØH
20-24	Price (XXX$_{\wedge}$XX)	PR

Write all the necessary statements to reserve the space in the memory for 3 arrays (N, QØH, PR) and read the data from the cards into these arrays.



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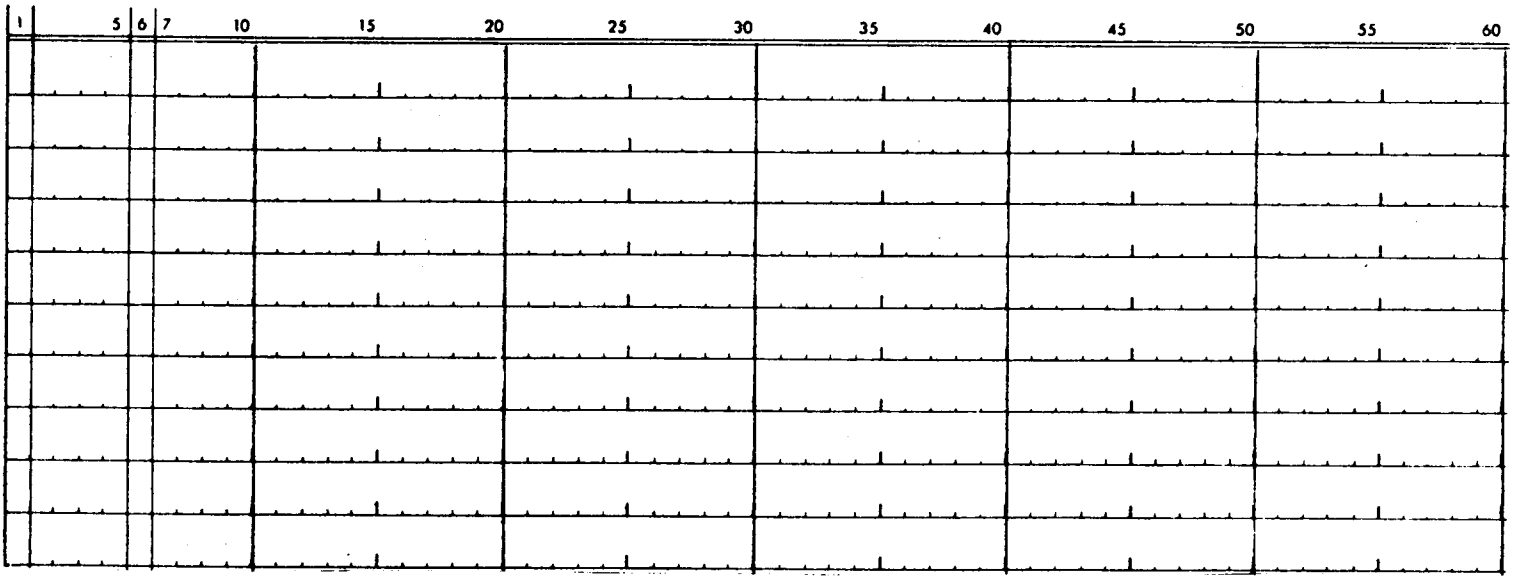
K201 - Quiz 6A

(9 pts) 1. Consider a program which copies a file from the tape 31 (old file) to the tape 16 (new file). Write a FORTRAN statement that will check the end-of-file condition and send control to statement #77 when this condition occurs. Also, write all the necessary statements in termination part of the program (starting with statement #77).



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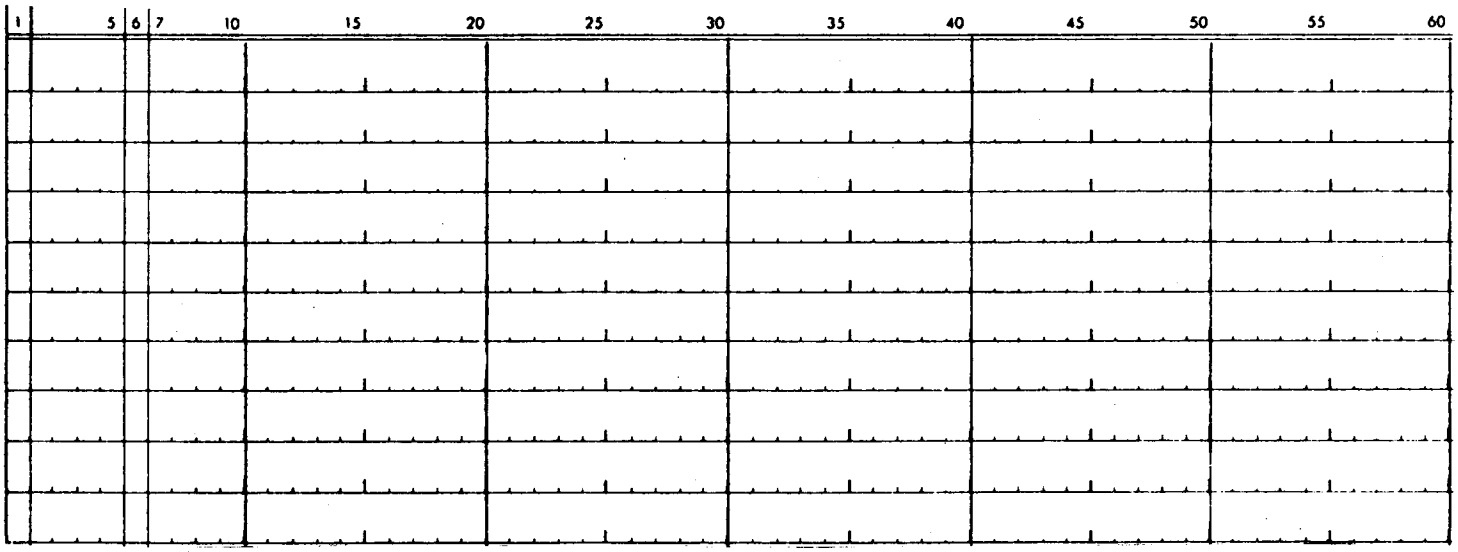
K201 - Quiz 6B

(9 pts) 1. Consider a program which prints report from a file (on tape 42). Write a FORTRAN statement that will check the end-of-file condition and send control to statement #98 when this condition occurs.

In the termination part of the program (starting with statement #98) the message "END OF PROGRAM" is printed on a new page. Write all the statements needed for a correct termination of the program!



(11 pts) 2. In a program called SEARCH an old file (on tape 14) is updated (on tape 33) and a report is printed using table look-up on less than or equal. Data cards are sorted in the same order as the record on the tape. Table values are punched in the table cards.

Prepare a system flowchart for this problem!

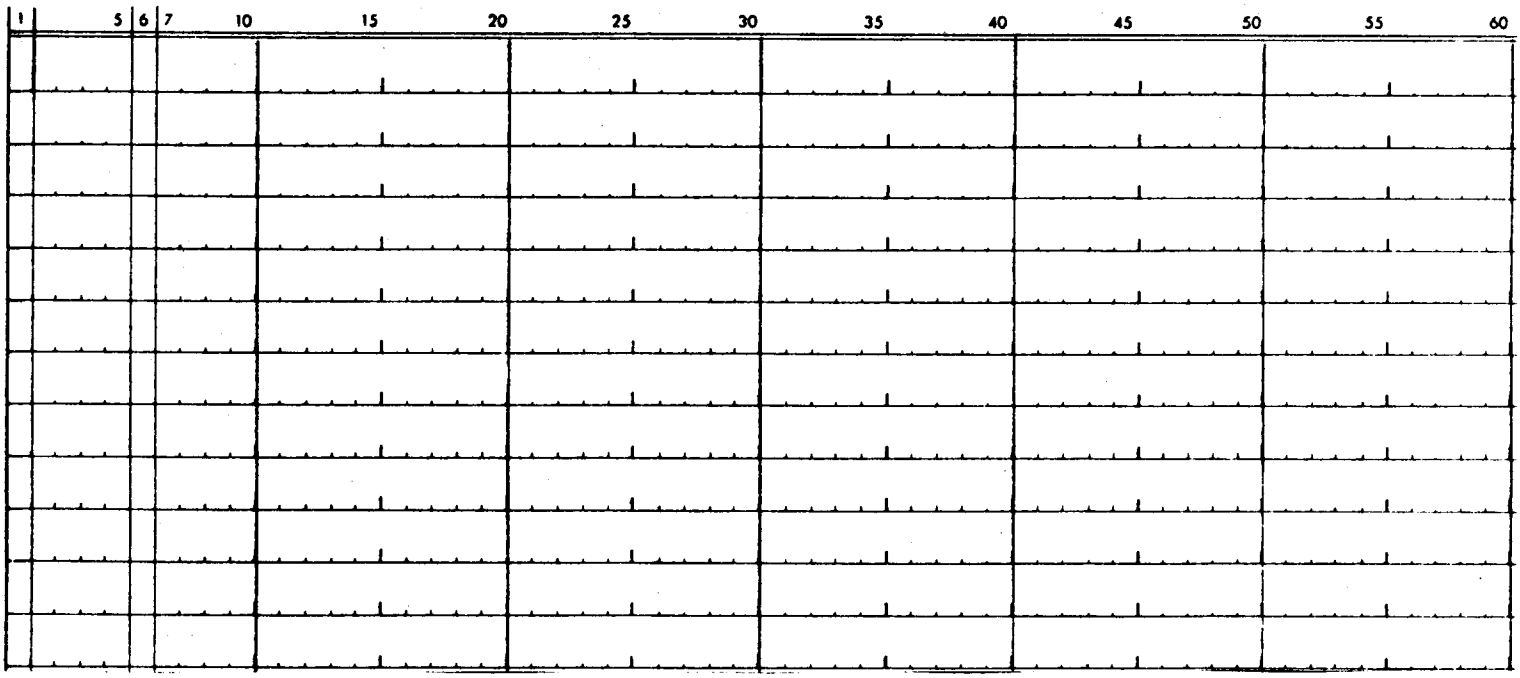
(11 pts) 2. In a program called UPDATE a report is printed using table look-up on equal and an old file (on tape 23) is updated (on tape 20). Transaction cards are sorted in the same order as the records on the tape. Table values are punched in the table cards.

Design a system flowchart for this problem!

Quiz 4B (continued)

(10 pts) 2. In the same program we want to calculate the total value of all the items in this warehouse (TV=TV+QØH(I)*PR(I)) and print the item # for each case when QØH(I)=0 (i.e., this item is out of stock).

Write all the necessary FORTRAN statements for this part of the program!



(10 pts) 2. In the same program we want to form a new array TØT showing the total quantity on hand in both warehouses for each item (TØT(I)=WW(I)+EW(I)), and print item # (INØ) for each case when TØT(I)=0 (i.e., this part is out of stock in both warehouses). Write all the necessary FORTRAN statements for this part of the program!