CS1002: Programming Fundamental (Fall 2022)

Home Task

Problem 1: Write the algorithm & draw flow chart of a program that reads three numbers and outputs the smallest.

Problem 2: Write an algorithm & draw flow chart that reads the user's age and then outputs:

1. "You are a child." If his age < 18.
2. "You are an adult." If age < 65.
3. "You are a senior citizen." If age>= 65.

Problem 3: Take values of length and breadth of a rectangle from user and check if it is square or not.

Problem 4: A student will not be allowed to sit in exam if his/her attendance is less than 75%.

Take following input from user

1. Number of classes held
2. Number of classes attended.

And print

1. percentage of class attended
2. Is student is allowed to sit in exam or not.

Problem 5: Take two inputs (suppose N, M), now swap the inputs and print their values.

Example: suppose

1. N = 2 , M = 3
   Swap the values N = 3 & M = 2.
2. N= 5 , M = 8
   Swap the values N = 8 & M = 5.

Problem 6: Write an algorithm & draw flow chart that check whether input number N is multiple of 2 AND 5.

Example:

1. N = 10
   10 is multiple of 2 and 5
2. N = 15
   15 is not multiple of 2 and 5.
3. N = 4
   4 is not multiple of 2 and 5

Problem 7: Take input from user (number) in N and display the factorial of series 1x2x3x4x...x N.
Example:

N = 5
1 x 2 x 3 x 4 x 5 = 120

Problem 8: Take input from user (number) in N and display the Multiplication Table of N (1 to 10).

Example: N= 2

2 x 1 = 2

2 x 2 = 4

2 x 3 = 6 …

Problem 9: Write the algorithm & draw flowchart of a program that prompts the user for entering a number, say x, and prints 1, 2, 3, ..., x-1, x, x-1, ..., 3, 2, 1. Assume that x > 1. For example, if the input is 5, the output should be 1 2 3 4 5 4 3 2 1, similarly if the input is 2, the output should be 1 2 1.

Problem 10: Take input from user (number) in N and display its length of N. Hint: use mode (%) and divide operators (/). E.g., 9%4 => 1 whereas 13/4 => 3

Example:

1. N = 9
   Length of N is 1.
2. N = 27
   Length of N is 2.
3. N = 65789
   Length of number is 5