Section 14

PDS Lab **Assignment - 3** **23.11.2022**

Instructions:

Give sufficient comment against each statement in your program.
You should save each program with the file name as specified against each problem.
There is a partial credit even if your program does not run successfully for all the test cases as mentioned.
No Moddle submission will attract zero credit in the evaluation.
Name the files as {ROLL}_A{#}_Q{#}.c, without the { and }. For ex: 19CS91R05_A2_Q1.c
Consult your TA for any confusion. Penalty if the file names do not stick to this convention.

1. Write a program that reads three integers representing time of a day. The integers are SS, MM, HH, representing seconds, minutes and hours, respectively. Print "Valid time – HH:MM:SS" if the integers represent a valid time of the day, else print "Invalid time".

TEST CASE	INPUT	OUTPUT
1	30 56 21	Valid time – 21:56:30
2	59 59 24	Invalid time
3	59 59 23	Valid time – 23:59:59
4	60 14 12	Invalid time

[Time: 20 Minutes] [5+5+5=15]

2. Write a C program that takes a two-digit integer between 20 to 99 as input from user and prints the input value in words.

TEST CASE	INPUT	OUTPUT
1	21	Twenty One
2	33	Thirty Three
3	99	Ninety Nine
4	20	Twenty

[Time: 20 Minutes] [10 + 5 = 15]

3. Read the symbol of a binary arithmetic operator (+, -, *, /).
   Also read two operands from the keyboard and perform the operation on those two operands depending upon the operator entered by the user.
   Print the result accordingly.

TEST CASE	INPUT	OUTPUT
1	+ 10.5 15.2	10.5 + 15.2 = 25.7
2	- 10.2 15	10.2 – 15 = -4.8
3	* 5.1 2	5.1 * 2 = 10.2
4	/ 3.14 2	3.14 / 2 = 1.57

[Time: 30 Minutes] [5+5+5+5 = 20]

4. Write a program to compute and print the electric bill based on the following chart. Total number of Electric Units will be input by the user as a floating-point number.

   First 100 KWH: Rs. 50/-

   For next 100 units Rs. 0.75/unit

   For next 100 units Rs. 1.20/unit

   For 300 unit onwards Rs. 1.50/unit

   An additional surcharge of 20% is added to the bill.

TEST CASE	INPUT	OUTPUT
1	150	Rs. 105.0
2	300	Rs. 294.0
3	1000	Rs. 1554.0
4	101	Rs. 60.9

[Time: 40 Minutes] [5+10+5+5=25]

5. Write a program that takes a date (day and month) of the year 2022 as input and prints out which day it is. You may use the fact that January 1, 2022 is a Saturday.

TEST CASE	INPUT	OUTPUT
1	Enter day and month: 41 10	Invalid date
2	Enter day and month: 17 11	Thursday
3	Enter day and month: 21 12	Wednesday
4	Enter day and month: 11 8	Thursday

[Time: 40 Minutes] [10+5+5+5 = 25]

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