Indian Institute of Information Technology Sri City, Chittoor
(An Institute of National Importance under An Act of Parliament)

Name: **CP Lab - 4** Duration: **3 Hrs**
Date: **10 Jan, 2022** Maximum Marks: **15**

INSTRUCTIONS:

1. Please carefully read all assignment problems and write the required programs in the C language.
2. All the **PROBLEMS** are **COMPULSORY**.
3. **You should submit only a single C file containing all your answers. Make sure that during submission, no part of your code is commented.**
4. Name the file as follows: **S2021xxxxx_A4.c**
5. DO NOT zip. Upload a single .c file directly to your submission in the common Google classroom.
6. Don't share or copy the codes. If malpractice found, you will be awarded **Zero**.

If you do not follow the above-mentioned instructions, a strict penalty would be imposed.

ASSIGNMENT PROBLEMS

1. Read a character from the keyboard and check whether it is a vowel or a consonant. **[2 marks]**

2. Read the time as positive integer from the keyboard. Based on the time, display the message as below. **[2 marks]**
   Time is between 5 – 10 → Hello, Sunny morning
   Time is between 11 – 16 → Good afternoon
   Time is between 17 – 19 → Good evening
   Time is between 20 – 22 → Good night
   Time is between 23 – 4 → Hi, Sleepy head
   You can display your own creative messages.

3. Find the roots of a quadratic equation such as $ax^2 + bx + c = 0$. The coefficients a, b, c should be taken as input from the user. If $(b^2-4ac) < 0$, print that roots are imaginary. **[3 marks]**

4. Read the marks of 5 subjects from the user. Calculate the total and average marks of 5 subjects. Use switch case to display the grade as given in the table. **[4 marks]**

Average Marks	Grade
>90	A
81-90	B
71-80	C
61-70	D
51-60	E
<=50	F

5. Write a program to compute and print the taxi fare based on the following chart. Total number of Kilometres travelled will be input by the user as a floating point number. **[4 marks]**

- First 0 -12 KM: Rs. 100/-
- Next 4 KM: Rs. 8 per KM
- Next 4 KM: Rs. 6 per KM
- Above 20 KM: Rs. 5 per KM

Test case:
Input: 16 km
Output: 132

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