CL1002 – Programming Fundamentals Lab

Exercise # 05

Note:

- Submit a pdf file containing all of your C code with all possible screenshots of every task outputs on Google Classroom.
- Copied task will be awarded **zero** marks.
- Note that these lab task marks could be graded through a viva in lab.
- Please submit your file in this format (roll-no-name) i.e (22P-8743-Zain.pdf).

Problem: 1

Write a C program to check whether an alphabet is a vowel or consonant. Your program should

ask the user to input an alphabet

VOWELS ARE (A,E,I,O,U)

Note: use switch case

Sample Output

```
Enter alphabet: E

E is vowel

Enter alphabet: K

K is consonant
```

Problem: 2

Write a program that will print the multiplication table(from 1 to 10) of user choice.

Sample Output:

```
Enter a no 5
5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
5 * 6 = 30
5 * 7 = 35
5 * 8 = 40
5 * 9 = 45
5 * 10 = 50
```

Problem: 3

Write a program that accepts an integer and displays its factors. For example, if the

user enters 12, the program should display 2, 3, 4 and 6.

Problem: 4

Write a program in c to print the factorial of a number n entered by the user.

Note:

Solve the above problem using the following two methods

- For Loop
- Recursion

Sample Output

Enter n: 5

Factorial: 120

Problem: 5

Write a Program in C that contains a function to Calculate Combination(nCr) for given values of n and r.

- The program should take the value of n and r from the user in main.
- The function should take n and r as input parameters.
- The function will calculate Combination nCr and return it to main.
- The program should print value of nCr in main .

The **nCr** (combination) formula is:

$$nCr = \frac{n!}{r!\ (n - r)!}$$

Sample Output:

Enter n: 5

Enter r: 3

ncr for n=5 and r = 3 is 10

Additional Task (Ungraded)

Problem: 6

Write a program that takes two numbers from the user and displays all prime numbers between them. For example, if the user enters 5 and 15, your program should display 5, 7, 11, 13.