

CL1002 – Programming Fundamentals Lab

Exercise # 04

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

Note: use for loop

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: 2

Write a program in c that counts the number of digits in an integer.

For example

if the user enter 789 output should be 3

if the user enter 8743 output should be 4

Note: use while loop

Problem: 3

Write a Program to Calculate Permutation(nPr) for given values of n and r
The **nPr** (permutation) formula is:

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

Sample Output:

```
Enter the value for n 5
Enter the value for r 4
npr for n= 5 and r= 4 is 120
```

Problem: 4

Modify a calculator you made in the last lab. This time your function ask user to enter the number and the operation you want to perform (+,-,*,/) after the operation is performed your program should ask the user whether you want to continue (y/n)? your program will exit only when user enter “n”

```
usman@usman:
usman~/pf/lab7-ai$ ./p5-calc
Enter first number:7
Enter second number:3
For Addition press 1
For Subtraction press 2
For Multiplication press 3
For Division press 4
Enter Operation (1,2,3,4):2
Subtraction :4
do you want to continue (y,n):y
Enter first number:8
Enter second number:2
For Addition press 1
For Subtraction press 2
For Multiplication press 3
For Division press 4
Enter Operation (1,2,3,4):3
Product :16
do you want to continue (y,n):n
usman~/pf/lab7-ai$
```

Problem: 5

Find the sum of the first 10 numbers that are divisible by 3 and 5.

Sample Output

825

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.