Md. Maruf Rayhan

Reg: 232-35-623

ld: 0242320005341623

Section: 41-J2

Assessment - 02

Date: 07.09.2024

Question - 01: Write a C program that prints all prime numbers between 1 and 100. Use a for loop to check each number and print only those that are prime.

Code:

```
#include <stdio.h>
#include <math.h>
int main()
{
  printf("Printing prime numbers from 1 to 100\n");
  for (int i = 2; i <= 100; i++)
  {
    int isPrime = 1;
    for (int j = 2; j <= sqrt(i); j++)
    {
      if (i % j == 0)
      {
         isPrime = 0;
         break;
      }
    }
    if (isPrime)
    {
      printf("%d\n", i);
    }
  }
  return 0;
```

```
}
// Author: Md. Maruf Rayhan :D
```

Attachments:

```
	extstyle 	ext
                                                                                                                                                                                                                                                                                                        PrimaryWorkspace (Workspace)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C PrimeNumbers.c ...\Capstone\... ● C Arı ▷ ∨ 戀 □ ··· ···
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ∑ Code - Assessment 2 + ∨ □ m ··· 〈 X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              • PS E:\Workplace\C Programming> cd "e:\Workplace\C
                                                                                                                 1 #include (stdio.h)
2 #include (math.h)
3
4 int main()
5 {
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Programming\Lab Tasks\3rd Semester Lab\Capstone\
Assessment 2\"; if ($?) { gcc PrimeNumbers.c -o
PrimeNumbers }; if ($?) { \PrimeNumbers }
Printing prime numbers from 1 to 100
                             > .cph
                             > 💌 .vscode

✓ Image Lab Tasks

                                 > = 2nd Semester ...
                                                                                                                                                         printf("Printing prime numbers from 1 to 100\n");
                                 ✓ ■ 3rd Semester L...
✓ ■ Capstone \As...
                                             C Factorial.c

☐ Factorial.exe
                                                                                                                                                                           int isPrime = 1;
                                                                                                                                                                             for (int j = 2; j <= sqrt(i); j++)
                                                 PrimeNumb...
                                      if (i % j == 0)
                                                                                                                                                                                                              isPrime = 0;
                                 > Solves
                                                                                                                                                                                               printf("%d\n", i);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PS E:\Workplace\C Programming\Lab Tasks\3rd Semes
                                                                                                                                                             return 0;
```

Question - 02: Write a C program that calculates the factorial of a given number n using a while loop. The program should prompt the user to enter a positive integer and then display the factorial of that number.

Code:

```
#include <stdio.h>
int main()
{
  int n;
  printf("Enter the number to find the factorial: ");
```

```
scanf("%d", &n);
int factorial = 1, i = 1;
while (i <= n)
{
   factorial *= i;
   i++;
}
printf("Factorial of %d is %d\n", n, factorial);
return 0;
}
// Author: Md. Maruf Rayhan :D</pre>
```

Attachments:

```
lack arphi File Edit Selection View Go Run lack arphi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 □ □ □ □ □ ×
                                                                                                                                                                                                                                                                                                                           PrimaryWorkspace (Workspace)

    ✓ PRIMARYWORKSPACE (W...
    O C Programming > Lab Tasks > 3rd Semester Lab > Capstone > Assessment 2 > € Factorial.c > ...
    I #incLude <stdio.h>

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PS E:\Workplace\C Programming> cd "e:\Workplace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rs : .Workplace to Programming to a ..Workplace C Programming Lab Tasks.\ard Semester Lab\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Capstone\Cap
                                     > ■ .cph 2

> ■ .cph 2

> ■ .xscode 3 int main()

√ Mm Lab Tasks 5 int n;

> ■ 2nd Semester ... 6 printf("Enter the number to find the factorial: ");

scanf("%d", %n);
                                  > = .cph
                                  > No.vscode
                                   ✓ Im Lab Tasks
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PS E:\Workplace\C Programming\Lab Tasks\3rd Sem ester Lab\Capstone\Assessment 2> []
                                           int factorial = 1, i = 1;
                                                       Factorial.c
                                                                                                                                                                            {
    factorial *= i;
    i++;

✓ ■ Data Structure

✓ ► Workplace

                                      > Solves
                                               Builder1
                        > PROJECTS
```