Assignment-3

Assignment Question. 01: Write a program in C to make such a pattern like right angle triangle with a number which will repeat a number in a row.

The pattern like:

1

22

333

4444

CODE

```c
C 01_Pattern_RightAngleTriangle_with_aNumber.c > ⊙ main()
1    /* Author: Jolok Banarjee, Id: 21014026, AE-02, Aerospace, BSMRAAU */
2    #include <stdio.h>
3    int main()
4    {
5        int i,j,rows;
6
7        printf("Input number of rows : ");
8        scanf("%d",&rows);
9        for(i=1;i<=rows;i++)
10       {
11         for(j=1;j<=i;j++)
12             printf("%d",i);
13         printf("\n");
14       }
15       return 0;
16   }
```

OUTPUT

```
Input number of rows : 5
1
22
333
4444
55555
PS E:\Code\CSE 4192\Assignment\03>
```

Assignment Question 2: Write a C program to calculate the factorial of a given number using for loop.

Sample input: 5

Sample Output: 120

CODE

```c
C 02_Factorial_Number.c > ...
1    /* Author: Jolok Banarjee, Id: 21014026, AE-02, Aerospace, BSMRAAU */
2    #include<stdio.h>
3    int main()
4    {
5        int i,factorial=1,number;
6        printf("Enter a number: ");
7        scanf("%d",&number);
8        for(i=1;i<=number;i++){
9            factorial=factorial*i;
10       }
11       printf("Factorial of %d is: %d",number,factorial);
12       return 0;
13   }
```

OUTPUT

```
Enter a number: 5
Factorial of 5 is: 120
PS E:\Code\CSE 4192\Assignment\03>
```

Assignment Question 3: Write a program in C Program to Check Whether a Number is Prime or Not.

CODE

C 03_Whether_aNumber_is_PrimeOrNot.c > ⊘ main()

```c
1    /* Author: Jolok Banarjee, Id: 21014026, AE-02, Aerospace, BSMRAAU */
2    #include<stdio.h>
3    int main(){
4        int num,i,m=0,flag=0;
5        printf("Enter the number to check prime:");
6        scanf("%d",&num);
7        m=num/2;
8        for(i=2;i<=m;i++){
9        if(num%i==0){
10       printf("Number is not prime");
11       flag=1;
12       break;
13           }
14       }
15       if(flag==0) {
16       printf("The Number %d is prime",num);
17       }
18       return 0;
19   }
```

OUTPUT1

```
Enter the number to check prime:11
The Number 11 is prime
PS E:\Code\CSE 4192\Assignment\03> ▌
```

OUTPUT2

```
Enter the number to check prime:10
Number is not prime
PS E:\Code\CSE 4192\Assignment\03> ▌
```

Assignment Question 4: Write a C program to reverse a number from user input.

CODE

```c
C 04_ReverseNumber.c > ⦿ main()
1    /* Author: Jolok Banarjee, Id: 21014026, AE-02, Aerospace, BSMRAAU */
2    #include <stdio.h>
3    int main() {
4        int number, reverse = 0, remainder;
5        printf("Enter an integer: ");
6        scanf("%d", &number);
7        while (number != 0) {
8        remainder = number % 10;
9        reverse = reverse * 10 + remainder;
10       number /= 10;
11       }
12       printf("Reversed number = %d", reverse);
13       return 0;
14   }
```

OUTPUT

```
Enter an integer: 58879
Reversed number = 97885
PS E:\Code\CSE 4192\Assignment\03> ▋
```

Lab Work-3

Lab Work Question 1: C program to Natural number using for loop.

CODE

```c
C 01_NaturalNumber_UsingForLoop.c > ...
1    /* Author: Jolok Banarjee, ID:21014026, AE-02, Aerospace, BSMRAAU */
2    #include <stdio.h>
3    int main()
4    {
5        int i;
6        printf("The First 12 Natural Numbers are:");
7        for (i=1;i<=12;i++){
8            printf("%d ",i);
9            //printf("\n");
10       }
11   return 0;
12   }
13   |
```

OUTPUT

```
The First 12 Natural Numbers are:1 2 3 4 5 6 7 8 9 10 11 12
PS E:\Code\CSE 4192\Class\Class-3> []
```

Lab Work Question 2: C program Triangle by using nested for loop.

CODE

```c
C 02_Triangle_Pyramid_Pattern.c > ⊙ main()
1    /* Author: Jolok Banarjee, ID:21014026, AE-02, Aerospace, BSMRAAU */
2    #include<stdio.h>
3    #include<conio.h>
4    int main() {
5        int i,j,rows;
6        printf("Enter the number of Rows: ");
7        scanf("%d", &rows);
8
9        for(i = 1; i <= rows; i++) {
10       /* Prints one row of triangle */
11           for(j = 1; j <= i; ++j) {
12               printf("%d",i);
13           }
14           printf("\n");
15       }
16       getch();
17       return 0;
18   }
```

OUTPUT

```
Enter the number of Rows: 6
1
22
333
4444
55555
666666
```

Lab Work Question 3: C program for Reverse Triangle by using nested for loop.

CODE

```c
C 03_Reversed_Pyramid.c > ⊘ main()
1    /* Author: Jolok Banarjee, ID:21014026, AE-02, Aerospace, BSMRAAU */
2    #include<stdio.h>
3    #include<conio.h>
4
5    int main() {
6        int i,j,rows;
7        printf("Enter the number of Rows: ");
8        scanf("%d", &rows);
9
10       for(i = rows; i > 0; i--) {
11       /* Prints one row of triangle */
12           for(j = i; j > 0; j--) {
13               printf("%d", i);
14           }
15           printf("\n");
16       }
17       getch();
18       return 0;
19   }
```

OUTPUT

```
Enter the number of Rows: 6
666666
55555
4444
333
22
1
```

Lab Work Question 4: C program for 1 to 20 sum of natural number.

CODE

```c
C 04_1_to_20_SumofNaturalNumber.c > ⊙ main()
1    /* Author: Jolok Banarjee, ID:21014026, AE-02, Aerospace, BSMRAAU */
2    #include <stdio.h>
3    int main() {
4        int number, i, sum = 0;
5
6        printf("Enter a positive integer number : ");
7        scanf("%d", &number);
8
9        for (i = 1; i <= number; ++i) {
10           sum += i;
11       }
12
13       printf("Sum = %d", sum);
14       return 0;
15   }
```

OUTPUT

```
Enter a positive integer number : 20
Sum = 210
PS E:\Code\CSE 4192\Class\Class-3> ▊
```