# TASK 6

**1.**

```c
// Online C compiler to run C program online
#include <stdio.h>
  float cube(float num);

int main()
{
    int num;
    float c;

    printf("Enter any number: ");
    scanf("%d", &num);

    c = cube(num);

    printf("Cube of %d is %.01f", num, c);

    return 0;
}
float cube(float num)
{
    return (num * num * num);
}
```

```
/tmp/9FgqdPmtTc.o
Enter any number: 5
Cube of 5 is 125.0
```

**2.**

```c
// Online C compiler to run C program online
#include <stdio.h>
double getDiameter(double radius);
double getCircumference(double radius);
double getArea(double radius);


int main()
{
    float diam, radius, circ, area;

    printf("Enter  the radius of the circle: ");
    scanf("%f", &radius);

    diam  = getDiameter(radius);
    circ = getCircumference(radius);
    area = getArea(radius);

    printf("Diameter of the circle = %.01f units\n", diam);
    printf("Circumference of the circle = %.01f units\n", circ
        );
    printf("Area of the circle = %.01f square units", area);

    return 0;
```

```
/tmp/9FgqdPmtTc.o
Enter  the radius of the circle: 5
Diameter of the circle = 10.0 units
Circumference of the circle = 31.4 units
Area of the circle = 78.5 square units
```

```
    return 0;
}
double getDiameter(double radius)
{
    return (2 * radius);
}
double getCircumference(double radius)
{
    return (2 * 3.14 * radius);
}
double getArea(double radius)
{
    return (3.14 * radius * radius);
}
```

**3.**

```
// Online C compiler to run C program online
#include <stdio.h>
int max(int num1, int num2);
int min(int num1, int num2);

int main()
{
    float num1, num2, maximum, minimum;
    printf("Enter any two numbers between them space: ");
    scanf("%f %f", &num1, &num2);
    maximum = max(num1, num2);
    minimum = min(num1, num2);
    printf("Maximum number is= %.01f\n", maximum);
    printf("Minimum number is= %.01f", minimum);
    return 0;
}
int max(int num1, int num2)
{
    return (num1 > num2 ) ? num1 : num2;
}
int min(int num1, int num2)
{
    return (num1 > num2 ) ? num2 : num1;
}
```

```
/tmp/9FgqdPmtTc.o
Enter any two numbers between them space: 15 20
Maximum number is= 20.0
Minimum number is= 15.0
```

**6.**

```c
// Online C compiler to run C program online
#include <stdio.h>
int isPrime(int num);
void printPrimes(int lowerLimit, int upLimit);
int main()
{
    int lowLimit, upLimit;

    printf("Enter the lower and upper limit to list primes: ");
    scanf("%d %d", &lowLimit, &upLimit);
    printPrimes(lowLimit, upLimit);
    return 0;
}
void printPrimes(int lowLimit, int upLimit)
{
    printf("All prime numbers between %d to %d are: ", lowLimit
        , upLimit);
    while(lowLimit <= upLimit)
    {
        if(isPrime(lowLimit))
        {
            printf("%d, ", lowLimit);
        }

            printf("%d, ", lowLimit);
        }

        lowLimit++;
    }
}
int isPrime(int num)
{
    int i;

    for(i=2; i<=num/2; i++)
    {
        if(num % i == 0)
        {
            return 0;
        }
    }

    return 1;
}
```

```
/tmp/9FgqdPmcTc.o
Enter the lower and upper limit to list primes: 1 100
All prime numbers between 1 to 100 are: 1, 2, 3, 5, 7, 11, 13, 17, 19,
    23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97,
```

- ***Recursion*** - Problems: 12, 16, 17, 18.

**12.**

```c
// Online C compiler to run C program online
#include <stdio.h>
void printEvenOdd(int cur, int limit);
int main()
{
    int lowerLimit, upperLimit;
    printf("Enter lower limit and upper limit: ");
    scanf("%d %d", &lowerLimit,& upperLimit);

    printf("Even or odd numbers from %d to %d are: ", lowerLimit,
        upperLimit);
    printEvenOdd(lowerLimit, upperLimit);

    return 0;
}
void printEvenOdd(int cur, int limit)
{
    if(cur > limit)
        return;
    printf("%d, ", cur);
    printEvenOdd(cur + 2, limit);
}
```

```
/tmp/9FgqdPmtTc.o
Enter lower limit and upper limit: 2 50
Even or odd numbers from 2 to 50 are: 2, 4, 6, 8, 10, 12, 14, 16, 18,
    20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50,
```

**16.**

```c
// Online C compiler to run C program online
#include <stdio.h>
int reverse(int num);
int isPalindrome(int num);

int main()
{
    int num;
    printf("Enter any number: ");
    scanf("%d", &num);

    if(isPalindrome(num) == 1)
    {
        printf("%d is palindrome number.\n", num);
    }
    else
    {
        printf("%d is NOT palindrome number.\n", num);
    }

    return 0;
}
int isPalindrome(int num)
{
```

```
/tmp/9FgqdPmtTc.o
Enter any number: 10
10 is NOT palindrome number.
```

```
{
    if(num == reverse(num))
    {
        return 1;
    }

    return 0;
}
int reverse(int num)
{
    int digit = (int)log10(num);

    if(num == 0)
        return 0;

    return ((num%10 * pow(10, digit)) + reverse(num/10));
}
```

**17.**

```
// Online C compiler to run C program online
#include <stdio.h>
int sumOfDigits(int num);

int main()
{
    int num, sum;

    printf("Enter any number to find sum of digits: ");
    scanf("%d", &num);

    sum = sumOfDigits(num);

    printf("Sum of digits of %d = %d", num, sum);

    return 0;
}
int sumOfDigits(int num)
{
    if(num == 0)
        return 0;

    return ((num % 10) + sumOfDigits(num / 10));
}
```

```
/tmp/9FgqdPmtTc.o
Enter any number to find sum of digits: 10
Sum of digits of 10 = 1
```

**18**

```c
// Online C compiler to run C program online
#include <stdio.h>

unsigned long long fact(int num);
int main()
{
    int num;
    unsigned long long factorial;

    printf("Enter any number: ");
    scanf("%d", &num);

    factorial = fact(num);
    printf("Factorial of %d is %llu", num, factorial);

    return 0;
}
unsigned long long fact(int num)
{
    if(num == 0)
        return 1;
    else
        return num * fact(num - 1);
}
```

```
/tmp/9FgqdPmtTc.o
Enter any number: 5
Factorial of 5 is 120
```