Lab 4

Question 1

Login to default directory and see if the directory LAB4 exists. If the directory LAB4 exists, then remove it. Now create the directory LAB4 and go to the directory LAB4. Create all the programs in the directory LAB4

```
abhishek@laptop:~/Desktop/College-Work$ ls
LAB4  LabWeek4-5.pdf  LabWeek4.pdf
abhishek@laptop:~/Desktop/College-Work$ rmdir LAB4
abhishek@laptop:~/Desktop/College-Work$ mkdir LAB4
abhishek@laptop:~/Desktop/College-Work$ cd LAB4/
abhishek@laptop:~/Desktop/College-Work/LAB4$
```

Question 2

Write a C program to find the sum of all numbers between 9 and 300 that are divisible by 7 but not by 63.

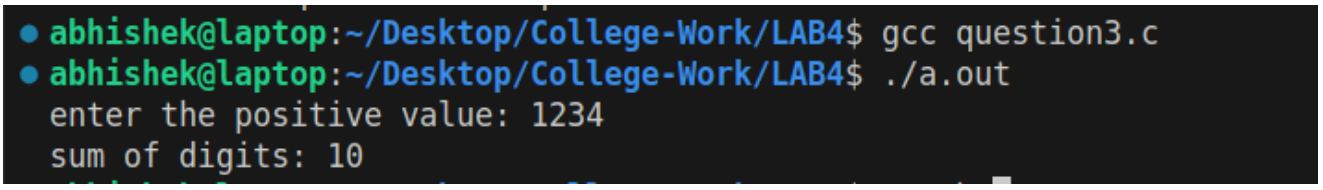
```c
#include <stdio.h>
int sum=0;
int main()
{
    for(int i=9;i<301; i++)
    {
        if(i%7==0 && i%63!=0)
        sum+=i;
    }
    printf("sum is : %d\n",sum);
    return 0;
}
```

```
abhishek@laptop:~/Desktop/College-Work/LAB4$ gcc question2.c
abhishek@laptop:~/Desktop/College-Work/LAB4$ ./a.out
sum is : 5684
```

Question 3

Write a C program to find the sum of digits entered by the user.

```c
#include <stdio.h>

int main(){
    int n, sum=0;

    printf("enter the positive value: ");
    scanf("%d",&n);

    while(n>0) //run the loop till input value is greater than 0
    {
        sum += n%10; //use to sum input values from the ending
        n /= 10; //use to remove the values from the last

    }
    printf("sum of digits: %d\n", sum); //print the sum of values

    return 0;
}
```



Question 4

Write a C program to calculate the sum of fourth powers of certain numbers.

```c
#include <stdio.h>

int main(){
    int n, i=1,j=1 ,sum =0;
    printf("enter the value less than 50: ");
    scanf("%d",&n);

    if (n>0 && n<50)
    {
        while (i <= n)
        {
            sum+=i*i*i*i;
            printf("%d^4",i);

            i += j; //increment for i
```

```
            j++ ;
            if(i<n)
            printf(" + ");


        }

    }
    else printf("Invalid number\n\n");

      printf(" = %d\n\n",sum);
    return 0;
}
```

```
abhishek@laptop:~/Desktop/College-Work/LAB4$ gcc question4.c
abhishek@laptop:~/Desktop/College-Work/LAB4$ ./a.out
enter the value less than 50: 9
1^4 + 2^4 + 4^4 + 7^4 = 2674
```

Question 5

Write a C program that accepts a positive integer n less than 10 from the terminal and prints out the sum of the n terms of the series 1^4 + 2^4 + 4^4 + 7^4 + 11^4, ...

```
#include <stdio.h>

int main(){
    int n,i=1,j=1,sum=0;
    printf("enter the value:");
    scanf("%d",&n);

    if (n>0&&n<<10)
    {
        while (i<n)
        {
            sum+=i*i*i*i;
            printf("%d^4",i);

            i+=j;
            j++;
            if (i<n)
            {
                printf(" + ");
```

```
            }

        }

    }else printf("invalid number");

    printf(" = %d\n\n",sum);
    return 0;
}
```

```
abhishek@laptop:~/Desktop/College-Work/LAB4$ gcc question5.c
abhishek@laptop:~/Desktop/College-Work/LAB4$ ./a.out
enter the value:7
1^4 + 2^4 + 4^4 = 273
```

Question 6

Write a C program that accepts a sequence of positive integers from the terminal. The program will stop accepting input once a negative integer is entered. The program will output the number of positive values entered, the minimum value, the maximum value, and the average of all numbers.

```
#include <stdio.h>

int main() {
    int num, count = 0, min, max;
    float sum = 0;
    printf("Enter positive integers (negative to stop):\n");
    while (1) {
        scanf("%d", &num);
        if (num < 0)
            break;
        if (count == 0) {
            min = max = num;
        } else {
            if (num < min) min = num;
            if (num > max) max = num;
        }
        sum += num;
        count++;
    }
    if (count > 0) {
        printf("Count: %d\n", count);
```

```
        printf("Minimum: %d\n", min);
        printf("Maximum: %d\n", max);
        printf("Average: %.2f\n", sum / count);
    } else {
        printf("No positive numbers entered.\n");
    }
    return 0;
}
```

```
abhishek@laptop:~/Desktop/College-Work/LAB4$ gcc question6.c
abhishek@laptop:~/Desktop/College-Work/LAB4$ ./a.out
Enter positive integers (negative to stop):
1
2
3
4
-9
Count: 4
Minimum: 1
Maximum: 4
Average: 2.50
```