Evaluation 4

STRINGS- Lab 7

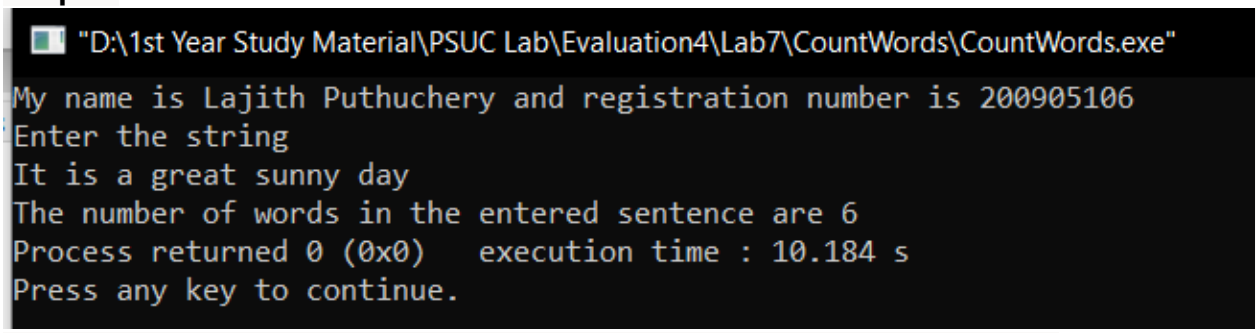
1. *Count the number of words in a sentence.*

Program:

```
#include <stdio.h>

int main()
{
   printf("My name is Lajith Puthuchery and registration number is
200905106\n");
   char str[100];
   int word=0;
   printf("Enter the string\n");
   gets(str);
   for(int i=0; str[i]!='\0'; i++)
   {
      if(str[i]==' ' && str[i+1]!=' ')
      {
         word++;
      }
   }
   printf("The number of words in the entered sentence are %d",word+1);
   return 0;
}
```

Output:



2. *Input a string and toggle the case of every character in the input string. Ex: INPUT : aBcDe OUTPUT : AbCdE*

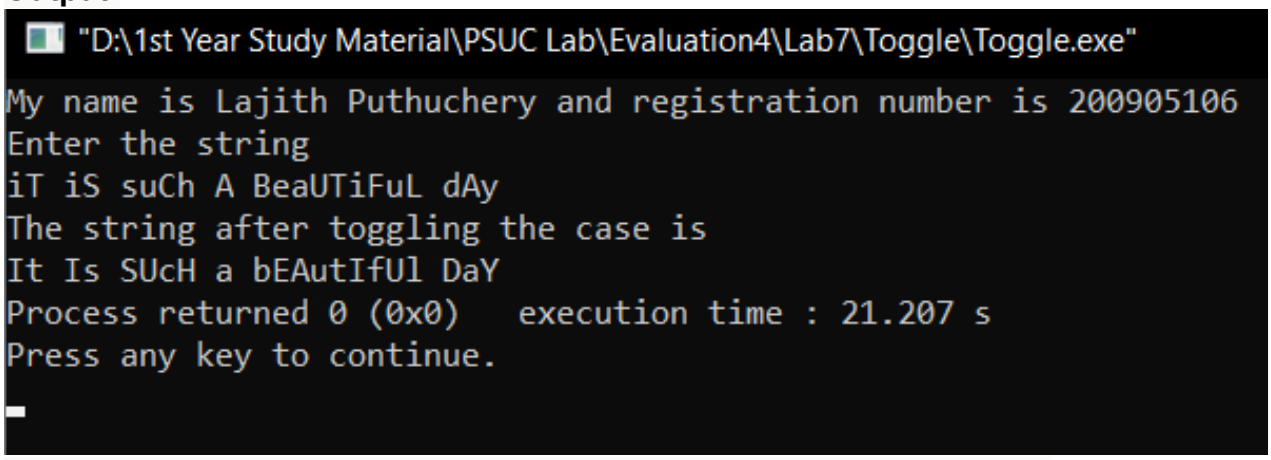
Program:

```
#include <stdio.h>

int main()
{
   printf("My name is Lajith Puthuchery and registration number is
200905106\n");
   char str[100];
   printf("Enter the string\n");
```

```
    gets(str);
    for(int i=0; str[i]!='\0'; i++)
    {
        if(str[i]>=65 && str[i]<=90)
        {
            str[i]+=32;
        }
        else if(str[i]>=97 && str[i]<=122)
        {
            str[i]-=32;
        }
    }
    printf("The string after toggling the case is \n%s",str);
    return 0;
}
```

Output:



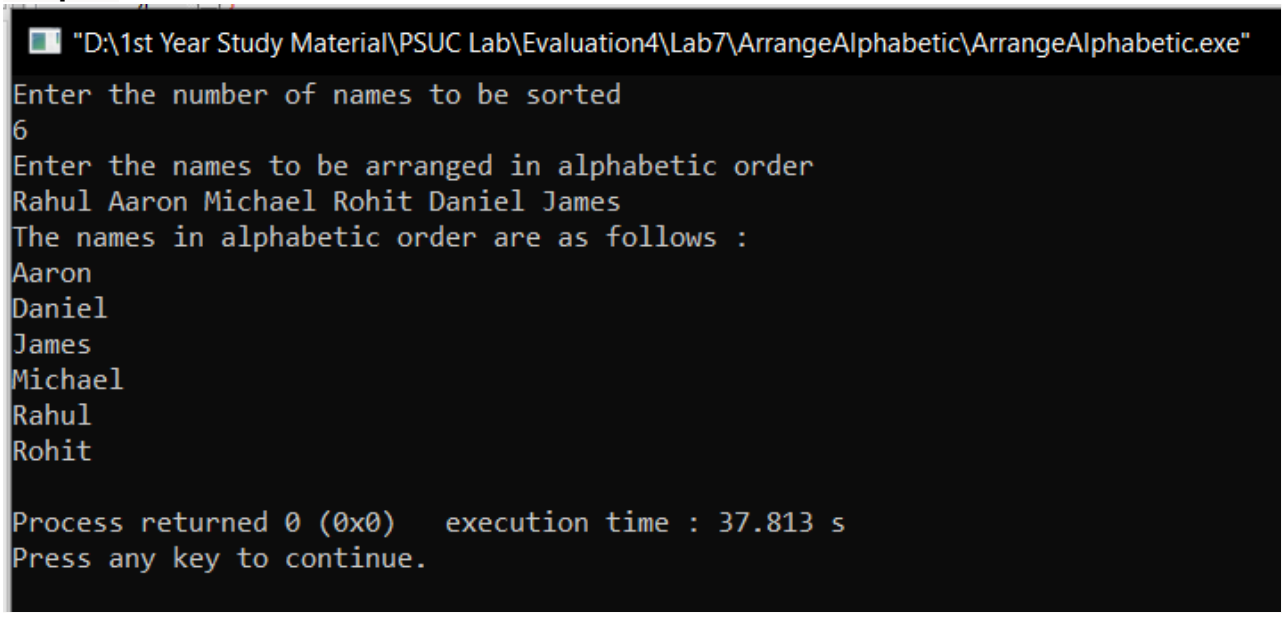
3. Arrange ‘n’ names in alphabetical order (hint: use string handling function- strcpy)

Program:

```
#include <stdio.h>
#include <string.h>
int main()
{
    char name[100][100],word[100];
    int n;
    printf("Enter the number of names to be sorted\n");
    scanf("%d",&n);
    printf("Enter the names to be arranged in alphabetic order\n");
    for(int i=0; i<n; i++)
    {
        scanf("%s",name[i]);
    }
    for(int i=0; i<n-1; i++)
    {
        for(int j=i+1; j<n; j++)
```

```
        {
            if(strcmp(name[i],name[j])>0)
            {
                strcpy(word,name[i]);
                strcpy(name[i],name[j]);
                strcpy(name[j],word);
            }
        }
    }
    printf("The names in alphabetic order are as follows :\n");
    for(int i=0; i<n; i++)
    {
        printf("%s",name[i]);
        printf("\n");
    }
    return 0;
}
```

Output:



MODULAR PROGRAMMING -FUNCTIONS- Lab 8

4. Write a function Largest to find the maximum of a given list of numbers. Also write a main program to read N numbers and find the largest among them using this function.

Program:

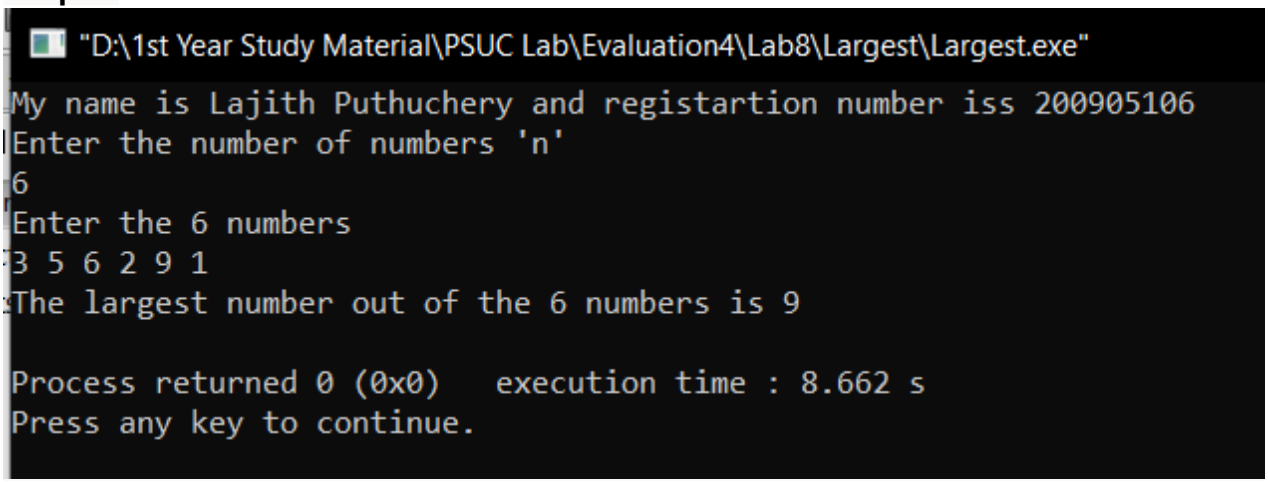
```
#include <stdio.h>

int largest(int num, int big)
{
    if(num>big)
    {
        big=num;
```

```
    }
    return big;
}

int main()
{
    int n,num,big;
    printf("My name is Lajith Puthuchery and registartion number iss
200905106\n");
    printf("Enter the number of numbers 'n'\n");
    scanf("%d",&n);
    printf("Enter the %d numbers\n",n);
    scanf("%d",&big);
    for(int i=2; i<=n; i++)
    {
        scanf("%d",&num);
        big = largest(num,big);
    }
    printf("The largest number out of the %d numbers is %d\n",n,big);
    return 0;
}
```

Output:



5. Write a function CornerSum which takes as a parameter, no. of rows and no. of columns of a matrix and returns the sum of the elements in the four corners of the matrix. Write a main function to test the function.

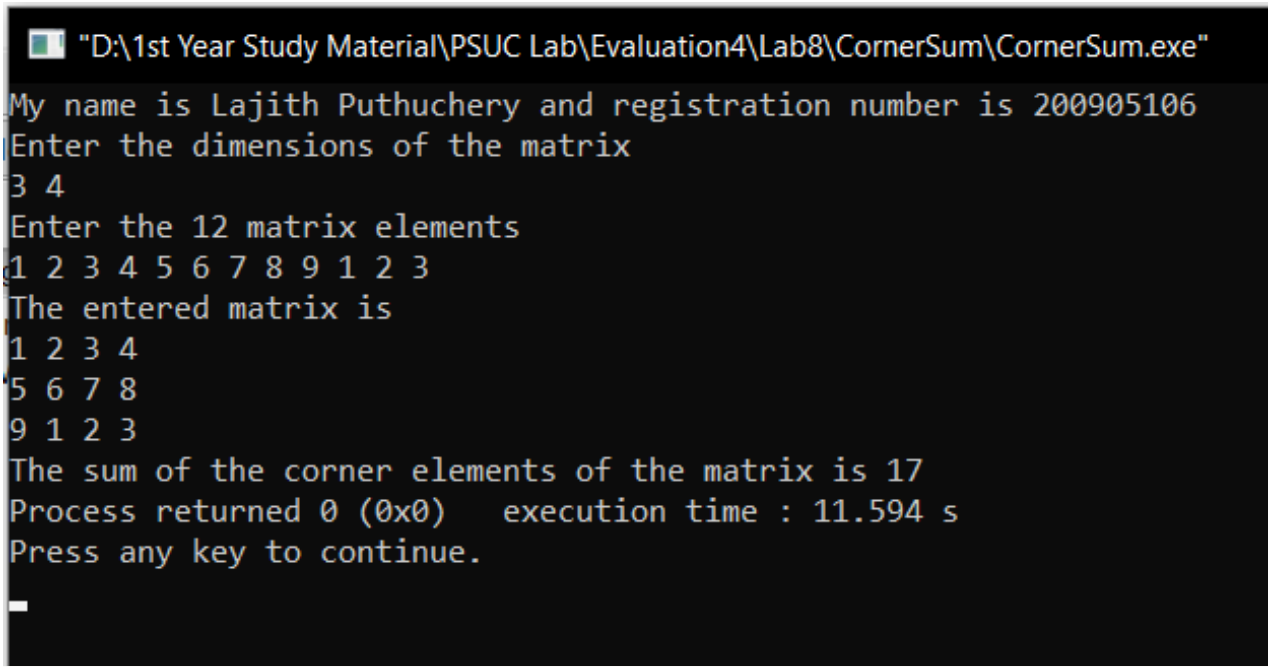
Program:

```
#include <stdio.h>

int CornerSum(int a[20][20], int m, int n)
{
    int sum=0;
    sum = a[0][0]+a[0][n-1]+a[m-1][0]+a[m-1][n-1];
    return sum;
}
```

```
int main()
{
    int a[20][20];
    int m,n,sum;
    printf("My name is Lajith Puthuchery and registration number is
200905106\n");
    printf("Enter the dimensions of the matrix\n");
    scanf("%d %d",&m,&n);
    printf("Enter the %d matrix elements\n",m*n);
    for(int i=0; i<m; i++)
    {
        for(int j=0; j<n; j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    printf("The entered matrix is\n");
    for(int i=0; i<m; i++)
    {
        for(int j=0; j<n; j++)
        {
            printf("%d ",a[i][j]);
        }
        printf("\n");
    }
    if(m==1||n==1)
    {
        printf("The matrix does not have 4 corner elements");
        exit(0);
    }
    sum=CornerSum(a,m,n);
    printf("The sum of the corner elements of the matrix is %d",sum);
    return 0;
}
```

Output:


"D:\1st Year Study Material\PSUC Lab\Evaluation4\Lab8\CornerSum\CornerSum.exe"
My name is Lajith Puthuchery and registration number is 200905106
Enter the dimensions of the matrix
3 4
Enter the 12 matrix elements
1 2 3 4 5 6 7 8 9 1 2 3
The entered matrix is
1 2 3 4
5 6 7 8
9 1 2 3
The sum of the corner elements of the matrix is 17
Process returned 0 (0x0)   execution time : 11.594 s
Press any key to continue.