# DS Assignment-2

1) Write a program to find the length of a given string.

## C file:

```
1.c
      first.h 2.c
                    second.h 3.c
                                    third.h 5.c
                                                   fifth.h 4.c
     //Write a program to find the length of a given string.
 2
     #include<stdio.h>
     #include "first.h"
 4 ☐ int main(){
 5
          char str[100];
         printf("Enter the string:\n");
 6
          scanf("%s", &str);
 7
         printf("Length of string is %d",strlength(str));
 8
 9
```

## **Header file:**

#### Output:

```
Enter the string:
HelloWorld
Length of string is 10

Process exited after 8.839 seconds with return value 22
Press any key to continue . . . _
```

2) Write a program to concate two given string.

### C file:

```
2.c
1.c
       first.h
                      second.h 3.c
                                      third.h
                                              5.c
                                                     fifth.h
 1
     // Write a program to concate two given string.
     #include <stdio.h>
 2
      #include "second.h"
 3
 4 —
     int main() {
 5
 6
        char string1[100],string2[100];
 7
        printf("Enter the first string:\n");
          scanf("%s", string1);
 8
          printf("Enter the second string:\n");
9
          scanf("%s", string2);
10
         printf("%s",concat(string1,string2));
11
12
```

## **Header file:**

```
second.h 3.c
1.c
              2.c
                                       third.h
                                              5.c
                                                      fifth.h
                                                             4.c
 1 = char* concat(char string1[100], char string2[100]){
 2
        int length, j;
 3
 4
 5
        length = 0;
        while (string1[length] != '\0') {
 6 -
 7
          ++length;
 8
        }
 9
        for (j = 0; string2[j] != '\0'; ++j, ++length) {
10 -
11
          string1[length] = string2[j];
12
        }
13
        string1[length] = '\0';
14
15
        return string1;
16
17
18
19
```

### Output:

```
Enter the first string:
Hello
Enter the second string:
World
HelloWorld
Process exited after 13.13 seconds with return value 10
Press any key to continue . . . ____
```

3) Write a program to copy one string to another string.

## C file:

```
second.h 3.c
1.c
       first.h
              2.c
                                     third.h 5.c
                                                    fifth.h
                                                                  fou
                                                           4.c
     // Write a program to copy one string to another string.
 1
     #include<stdio.h>
 2
     #include "third.h"
 3
     int main()
 4
5 🗏 {
          char text1[100];
 6
 7
          char text2[100];
          int i;
 8
          printf("Enter the first string:\n");
 9
         scanf("%s", text1);
10
         printf("Enter the second string:\n");
11
         scanf("%s", text2);
12
         printf("First string copied to Second String as: \n");
13
         printf("%s",copy(text1,text2));
14
15
```

# **Header file:**

```
third.h
1.c
       first.h
               2.c
                      second.h
                                3.c
                                               5.c
                                                       fifth
      #include<stdio.h>
 3  char* copy(char text1[100], char text2[100]){
 4
          int i;
 5
          for(i=0; text1[i]!='\0'; i++)
 6
 7 -
               text2[i] = text1[i];
 9
10
11
          text2[i] = '\0';
12
13
14
          return text2;
15
16
```

#### Output:

```
C:\Users\Dell\Desktop\DS LAB\Practical 2\3.exe

Enter the first string:
Hello
Enter the second string:
World
First string copied to Second String as:
Hello

Process exited after 5.764 seconds with return value 5
Press any key to continue . . . _
```

4) Write a program to compare two given string.

## C file:

```
third.h 5.c
                                                     fifth.h 4.c
1.c
       first.h 2.c
                     second.h 3.c
                                                                    fourth.l
      #include<stdio.h>
 1
     #include "fourth.h"
 2
 3
      int stringCompare(char[], char[]);
 4
 5
 6
      int main()
 7 🖵 {
 8
 9
          char aj1[100], aj2[100];
10
          int compare;
11
12
          printf("Enter 1st string: ");
13
          scanf("%s", aj1);
14
          printf("\nEnter 2nd string: ");
15
16
          scanf("%s", aj2);
17
18
          compare = stringCompare(aj1, aj2);
19
          if(compare == 1)
20
              printf("\nBoth the strings are exactly same.\n\n");
21
22
              printf("\nBoth the strings are different.\n");
23
24
25
          return 0;
26
```

## **Header file:**

```
fı
                       second.h 3.c
                                        third.h
                                                5.c
                                                       fifth.h
1.c
       first.h
               2.c
                                                               4.c
      int stringCompare(char mj1[], char mj2[])
 2 - {
 3
          int i = 0, flag = 0;
          while(mj1[i] != '\0' && mj2[i] != '\0')
 4
 5 -
 6
 7
               if(mj1[i] != mj2[i])
 8
 9
                   flag = 1;
10
                   break;
11
12
               i++;
13
14
          if(flag == 0 && mj1[i] == '\0' && mj2[i] == '\0')
15
16
               return 1;
17
          else
18
               return 0;
19
```

### Output:

```
C:\Users\Dell\Desktop\DS LAB\Practical 2\4.exe

Enter 1st string: Hello

Enter 2nd string: World

Both the strings are different.

Process exited after 13.96 seconds with return value 0

Press any key to continue . . .
```

5) Write a program to search for the first occurrence of the character 'c' in the given string.

## C file:

```
third.h 5.c
                                                     fifth.h 4.c
1.c
       first.h
             2.c
                      second.h 3.c
                                                                    fourth.h 6.c
                                                                                   sixth.h | 7.c
     #include<stdio.h>
     #include "fifth.h"
     int main()
 4 🗏 {
          char arr='c', str[100];
 5
 6
          int l;
          printf("Enter the string in which position of letter c is to be known:\n");
 7
          scanf("%s", &str);
 8
          printf("%d", find_c(str,arr));
 9
10
          return 0;
11
12
```

# **Header file:**

```
fifth.h
1.c
       first.h
                       second.h 3.c
                                        third.h 5.c
               2.c
      int find c(char string[],char c)
 2 🖳 {
 3
          int i,pos;
        for (i = 0; string[i] != '\0'; i++)
 4
 5
               if(string[i]==c)
 6
 7
 8
                   pos=i+1;
 9
                   break;
10
11
12
        return pos;
13
14 └ }
```

### Output:

```
C:\Users\Del\Desktop\DS LAB\Practical 2\5.exe

Enter the string in which position of letter c is to be known:

Search

S

Process exited after 24.84 seconds with return value 0

Press any key to continue . . .
```

6) Write a program to find sub string is there in given string or not?

## C file:

```
1.c
                                        third.h
       first.h
               2.c
                      second.h
                                3.c
                                               5.c
 1
      #include<stdio.h>
      #include "sixth.h"
 2
 3
      int main()
 4 -
 5
          char string1[100];
          char substring[100];
 6
 7
          int i,flag;
          printf("Enter the string:\n");
 8
          .
scanf("%s", string1);
 9
          printf("Enter the sub string:\n");
10
          scanf("%s", substring);
11
12
          flag = subbstring(string1,substring);
13
14
          if(flag == 1)
15
16
          printf("Substring is present\n");
17
18
19
           else
20
21
           printf("Sub string not present\n");
22
23
          return 0;
24
```

#### **Header file:**

```
1.c
       first.h 2.c
                      second.h 3.c
                                        third.h 5.c
                                                        fifth.h 4.c
 1  int subbstring(char string1[], char substring[]){
          int count1 = 0, count2 = 0, i, j, flag;
while (string1[count1] != '\0')
 2
 3
 4
               count1++;
           while (substring[count2] != '\0')
 5
               count2++;
 6
           for (i = 0; i <= count1 - count2; i++)
 7
 8 🖃
               for (j = i; j < i + count2; j++)
 9
10 🖵
11
                    flag = 1;
                    if (string1[j] != substring[j - i])
12
13 🗀
                    {
14
                         flag = 0;
15
                        break;
16
17
18
               if (flag == 1)
19
                    break;
20
           return flag;
21
22
```

### Output:

```
C:\Users\Dell\Desktop\DS LAB\Practical 2\6.exe

Enter the string:
Elbow
Enter the sub string:
bow
Substring is present

Process exited after 32.51 seconds with return value 0
Press any key to continue . . .
```

7) Write a program to generate reverse of a string.

## C file:

```
third.h 5.c
       first.h 2.c
                     second.h 3.c
                                                     fifth.h 4.c
1.c
     #include<stdio.h>
 1
     #include "seventh.h"
 2
     int main()
 3
 4 -
          char a[20];
 5
          printf("Enter the string to be reversed:\n");
 6
          scanf("%s", &a);
          printf("The reversed string is %s", reverse(a));
 8
 9
10
11
```

## **Header file:**

```
first.h
1.c
               2.c
                       second.h
                                 3.c
                                        third
      char* reverse(char *s){
 2
          int length=0,i;
 3
          char temp;
 4
 5 -
          while(*(s+length)!='\0'){
               length++;
 6
 7
          for(i=0;i<length/2;i++){
 8
               temp=*(s+i);
 9
               *(s+i)=*(s+length-i-1);
10
               *(s+length-i-1)=temp;
11
12
13
          return s;
14
```

### Output:

C:\Users\Dell\Desktop\DS LAB\Practical 2\7.exe

```
Enter the string to be reversed:
World
The reversed string is dlroW
-----
Process exited after 2.981 seconds with return value 28
Press any key to continue . . . _
```