ASSIGNMENT-8

1. **read from a terminal using scanf function and print using printf function**.

```
#include<stdio.h>
int main()
{
    int n;
    char ch;
    char str[20];
    printf("Enter an integer : ");
    scanf("%d",&n);
    printf("Enter a word : ");
    scanf("%s",str);
    fflush(stdin);
    printf("Enter a character : ");
    scanf("%c",&ch);
    printf("You have entered :\n");
    printf("Integer : %d\nCharacter : %c\nWord : %s",n,ch,str);
    return 0;
}
```

Output-

```
Enter an integer : 4
Enter a word : four
Enter a character : ch
You have entered :
Integer : 4
Character : c
Word : four
```

2. **read a lines of text from a terminal using fgets function and print using puts function.**

```
#include<stdio.h>
#include <string.h>
int main(){
char name[50];
printf("Enter your name: ");
fgets(name,50,stdin);
printf("Your name is: ");
```

```
puts(name);
return 0;
}
```
Output: Enter your name: sssss
Your name is: sssss

3.Convert

a. Upper case to Lower case
b. Lower case to Upper case
c. Toggle case
d. Sentence case

a) upper case to lower case:

```
#include <stdio.h>
#include <string.h>
int main(){
  char s[100];
  int i;

  printf("Enter a string : ");
  gets(s);

  for (i = 0; s[i]!='\0'; i++) {
    if(s[i] >= 'A' && s[i] <= 'Z') {
      s[i] = s[i] + 32;
    }
  }

  printf("\nString in Lower Case = %s", s);
  return 0;
}
```
OUTPUT:
Enter a string : I HAVE
String in Lower Case = i have

b) lower case to upper case:

```
#include <stdio.h>
#include <string.h>
int main() {
  char s[100];
  int i;
  printf("Enter a string : ");
  gets(s);

  for (i = 0; s[i]!='\0'; i++) {
    if(s[i] >= 'a' && s[i] <= 'z') {
      s[i] = s[i] - 32;
    }
  }
  printf("\nString in Upper Case = %s", s);
  return 0;
}
```

OUTPUT:

```
Enter a string : hii man

String in Upper Case = HII MAN
```

c) toggle case:

```
#include<stdio.h>
#include<string.h>

int main()
{
 char str[100];
 int i;
 printf("please enter a sentence =");


gets(str);

 for(i=0;str[i]!='\0';i++)
 {
   if(str[i]>='a' &&str[i]<='z')
  {
```

```
   str[i]=str[i]-32;
  }
   else if(str[i]>='A' &&str[i]<='Z')
  {
   str[i]=str[i]+32;
  }
 }

 printf("\nThe toggle case  =  %s",str);
 return 0;

}
```

OUTPUT:

please enter a sentence =Very baD pERSon

The toggle case = vERY BAd PersON

d) sentence case:

```
 #include <stdio.h>
#include <ctype.h>
int main(){
      char str[100];
      printf("Enter a string : ");
   gets(str);
   str[0] = toupper(str[0]);
   printf("The string is: %s.",str);
   return 0;
}
```

OUTPUT:

Enter a string : hello raju

The string is: Hello raju

4.perform String Concatenation (With and Without String Handling Functions).

a) Without using string handling function:

```
#include<stdio.h>
```

```
int main()
{
 char str1[25],str2[25];
 int i=0,j=0;
 printf("\nEnter First String:");
 gets(str1);
 printf("\nEnter Second String:");
 gets(str2);
 while(str1[i]!='\0')
 i++;
 while(str2[j]!='\0')
 {
  str1[i]=str2[j];
  j++;
  i++;
 }
 str1[i]='\0';
 printf("\nConcatenated String is %s",str1);
return 0;
}
```

output: Enter First String:21

Enter Second String:23

Concatenated String is 2123

b) With using string function:

```
#include <stdio.h>
#include <string.h>

int main()
{
   char a[100], b[100];

   printf("Enter the first string\n");
   gets(a);
```

```
    printf("Enter the second string\n");
    gets(b);

    strcat(a,b);

    printf("String obtained on concatenation is %s\n",a);

    return 0;

}
```

output: Enter the first string
the robot
Enter the second string
is fire
String obtained on concatenation is the robotis fire

5.perform String Reversal (With and Without String Handling Functions).

a) using string handling function:

```
#include <stdio.h>
#include <string.h>
int main()
{
  char s[100];

  printf("Enter a string to reverse\n");
  gets(s);

  strrev(s);

  printf("Reverse of the string: %s\n", s);

  return 0;
}
```

output: Enter a string to reverse

thr dog

Reverse of the string: god rht

b) Without using string handling function:

```
#include <stdio.h>
int main()
{
  char s[1000], r[1000];
  int begin, end, count = 0;

  printf("Input a string\n");
  gets(s);



  while (s[count] != '\0')
    count++;

  end = count - 1;

  for (begin = 0; begin < count; begin++) {
    r[begin] = s[end];
    end--;
  }

  r[begin] = '\0';

  printf("%s\n", r);

  return 0;
}
```

outputEnter a string to reverse
thr dog

Reverse of the string: god rht

6.perform Substring Extraction (With and Without String Handling Functions).

```
#include<stdio.h>
#include<string.h>
int main()
{
   char str[20],*s,sub[20];
   int i,j,index,temp;
   printf("Enter a string : ");
   fgets(str,20,stdin);
   puts(str);
   //using library function
   s=strstr(str,"world");
   puts(s);
   //without using library function
   printf("Enter substring : ");
   gets(sub);
   i=j=index=0;
   while(sub[i]!='\0' && str[j]!='\0')
   {
      while(sub[i]!=str[j] && str[j]!='\0')
         j++;
      if(sub[i]==str[j])
      {
         index=j;
         while(sub[i]!='\0')
         {
            if(sub[i]!=str[j])
               break;
            i++; j++;
         }
         if(sub[i]=='\0')
            printf("String found at index %d\n",index);
         else
            j=index+1;
      }
      i=0;
```

```
    }
    return 0;
}
```

7.copy one string into another and count the no of elements copied. (With and Without String Handling Functions).

a) With using string handling function:

```
#include<stdio.h>
#include<string.h>    // for using strcpy() function

int main(){
   char str1[100];
   char str2[100];
   int i;
   printf("Enter the string: ");
   gets(str2);
   strcpy(str1,str2);
   printf("\nThe copied string is: %s", str1);
   for(i=0; str2[i]!='\0'; i++)
     str1[i]=str2[i];
     str1[i]='\0';
   printf("\nNumber of characters = %d\n", i);
   return 0;
}
```

Output: Enter the string: manpower

The copied string is: manpower
Number of characters = 8

b) Without using string handling function:

```
#include<stdio.h>
//#define N 10
```

```
int main(){
char str1[80],str2[80];
int i;
printf("input a string:");
scanf("%s",str2);
for(i=0;str2[i]!='\0';i++)
str1[i]=str2[i]!='\0';i++)
str1[i]=str2[i];
str1[i]='\0';
printf("\n");
printf("original string:%s",str1);
printf("\nnumber of characters=%d\n",i);
return 0;
}

Output: input a string; gunner
original string: gunner
number of characters = 6
```

8.read a string and prints if it is a palindrome or not.

```
#include <stdio.h>
#include <string.h>

int main(){
   char string1[20];
   int i, length;
   int flag = 0;

   printf("Enter a string:");
   scanf("%s", string1);

   length = strlen(string1);

   for(i=0;i < length ;i++){
      if(string1[i] != string1[length-i-1]){
         flag = 1;
         break;
   }
```

```
}

   if (flag) {
      printf("%s is not a palindrome", string1);
   }
   else {
      printf("%s is a palindrome", string1);
   }
   return 0;
}
```

Output: Enter a string:wow
wow is a palindrome

9.read a line of text and count all occurrences of particular word.

```
#include <stdio.h>
#include <string.h>
#include <ctype.h>

int main()
{
   char string[100], word[20], unit[20], c;
   int i = 0, j = 0, count = 0;

   printf("Enter string: ");
   i = 0;
   do
   {
      fflush(stdin);
      c = getchar();
      string[i++] = c;

   } while (c != '\n');
   string[i - 1] = '\0';
   printf("Enter the word you want to find: ");
   scanf("%s", word);
```

```
   for (i = 0; i < strlen(string); i++)
   {
      while (i < strlen(string) && !isspace(string[i]) && isalnum(string[i]))
      {
         unit[j++] = string[i++];
      }
      if (j != 0)
      {
         unit[j] = '\0';
         if (strcmp(unit, word) == 0)
         {
            count++;
         }
         j = 0;
      }
   }

   printf("The number of times the word '%s' found in '%s' is '%d'.\n", word, string, count);
return 0;
}
```

output: Enter string: hello world hello program hello C
Enter the word you want to find: hello
The number of times the word 'hello' found in 'hello world hello program hello C' is 3

10.read a string and rewrite it in the alphabetical order.

```
#include<stdio.h>
#include<string.h>

int main()
{
char str[20], k;
int i, j;
```

```
printf("Enter a string: \n");
scanf("%[^\n]", str);
for(i=0; str[i] != '\0'; i++)
{
for(j=i+1; str[j] != '\0'; j++)
{
if(str[i] > str[j])
{
k= str[i];
str[i] = str[j];
str[j] = k;

}
}
}
printf("%s", str);
printf("\n");
return 0;

}
```

Output-Enter a string:
toypapeer
aeeopprty

11.Print the Words Ending with Letter S.

```
#include <stdio.h>
#include <string.h>

char str[100];

int main()
{
   int i, t, j, len;
```

```
    printf("Enter a string : ");
    scanf("%[^\n]s", str);

    len = strlen(str);

    str[len] = ' ';

    for (t = 0, i = 0; i < strlen(str); i++)
    {
       if ((str[i] == ' ') && (str[i - 1] == 's'))
       {
          for (j = t; j < i; j++)
             printf("%c", str[j]);
          t = i + 1;
          printf("\n");
       }
       else
       {
          if (str[i] == ' ')
          {
             t = i + 1;
          }
       }
    }
return 0;
}
```

Output: Enter a string :
Welcome to C Programming Class, Welcome Again to C Class ! Class

12. Delete All Repeated Words in the line of text.

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
```

```
int main()
{
	char str[100], word[100], twoD[10][30];
	int i = 0, j = 0, k = 0, len1 = 0, len2 = 0, l = 0;

	printf ("Enter the string\n");
	gets (str);


	for (i = 0; str[i] != '\0'; i++)
	{
		if (str[i] == ' ')
		{
			twoD[k][j] = '\0';
			k ++;
			j = 0;
		}
		else
		{
			twoD[k][j] = str[i];
			j ++;
		}
	}

	twoD[k][j] = '\0';

	j = 0;
	for (i = 0; i < k; i++)
	{
		int present = 0;
		for (l = 1; l < k + 1; l++)
		{
			if (twoD[l][j] == '\0' || l == i)
			{
				continue;
			}

			if (strcmp (twoD[i], twoD[l]) == 0) {
				twoD[l][j] = '\0';
```

```
                        present = present + 1;
                }
        }

}

j = 0;

for (i = 0; i < k + 1; i++)
{
        if (twoD[i][j] == '\0')
                continue;
        else
                printf ("%s ", twoD[i]);
}

printf ("\n");

return 0;
}
```

Output: Enter the string:
Enter the string
it is a toy,this is a toy
it is a toy,this toy