Assignment - 17

1. Write a program to calculate the length of the string. (without using built-in method)

```
#include <stdio.h>

int main()
{
   char str[50];
   int i, length = 0;

   printf("Enter the string: \n");
   gets(str);
   for (i = 0; str[i] != '\0'; i++)
   {
      length++;
   }
   printf("the length of %s = %d\n", str, length);
   return 0;
}
```

2. Write a program to count the occurrence of a given character in a given string.

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

int main()
{
        char str[100], ch;
        int i, Count;
        Count = 0;

        printf("\n Enter any String :  ");
        gets(str);

        printf("\n Enter the Character that you want to Search for :  ");
```

```
        scanf("%c", &ch);

        for(i = 0; i <= strlen(str); i++)
        {
                if(str[i] == ch)
                {
                        Count++;
                }
        }
        printf("\n The Total Number of times '%c' has Occured = %d ", ch, Count);

        return 0;
}
```

3. Write a program to count vowels in a given string

```
                #include <stdio.h>
int main()
{
  int c = 0, count = 0;
  char s[100];

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

  while (s[c] != '\0')
    {
       if (s[c] == 'a' || s[c] == 'A' || s[c] == 'e' || s[c] == 'E' || s[c] == 'i' || s[c] == 'I' ||
s[c] =='o' || s[c]=='O' || s[c] == 'u' || s[c] == 'U')
       count++;
       c++;
    }

  printf("Number of vowels in the string: %d", count);

  return 0;
}
```

4. Write a program to convert a given string into uppercase

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

5. Write a program to convert a given string into lowercase

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

6. Write a program to reverse a string.

```
                #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;
}
```

7. Write a program in C to count the total number of alphabets, digits and special characters in a string.

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

int main()
{
    char s[100];
    int i,alphabets=0,digits=0,specialcharacters=0;

    printf("Enter  the string : ");
    gets(s);
```

```
    for(i=0;s[i];i++)
    {
        if((s[i]>=65 && s[i]<=90)|| (s[i]>=97 && s[i]<=122) )
          alphabets++;
        else if(s[i]>=48 && s[i]<=57)
         digits++;
        else
         specialcharacters++;

          }


    printf("Alphabets = %d\n",alphabets);
    printf("Digits = %d\n",digits);
    printf("Special characters = %d", specialcharacters);


    return 0;
}
```

8. Write a program in C to copy one string to another string.

```
                #include <stdio.h>

int main()
{
    char s1[100],s2[100];
    int i;

    printf("Enter any string: ");
    gets(s1);
    for(i=0;s1[i]!='\0';i++)
    {
         s2[i]=s1[i];
         }
         s2[i]='\0';
```

```
    printf("original string s1=%s\n",s1);
    printf("copy string   s2=%s ",s2);


    return 0;
}
```

9. Write a C program to sort a string array in ascending order

```
                #include <stdio.h>
#include <string.h>
int main()
{
  char str[100],ch;
  int i,j,l;

       printf("Enter the string : ");
       fgets(str, sizeof str, stdin);
  l=strlen(str);

  for(i=1;i<l;i++)
    for(j=0;j<l-i;j++)
         if(str[j]>str[j+1])
         {
           ch=str[j];
           str[j] = str[j+1];
           str[j+1]=ch;
         }
   printf("After sorting the string : \n");
   printf("%s\n\n",str);
   return 0;
  }
```

10. Write a program in C to Find the Frequency of Characters.

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

```
#include <string.h>

int main()
{
    char string[] = "MySig inueron";
    int i, j, length = strlen(string);
    int freq[length];


    for(i = 0; i < strlen(string); i++)
        {
        freq[i] = 1;
        for(j = i+1; j < strlen(string); j++)
         {
            if(string[i] == string[j])
             {
                freq[i]++;

                string[j] = '0';
            }
        }
    }

    printf("Characters and their corresponding frequencies\n");
    for(i = 0; i < length; i++)
        {
        if(string[i] != ' ' && string[i] != '0')
            printf("%c-%d\n", string[i], freq[i]);
    }

    return 0;
}
```