Assignment (7) String Basics in C-language

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

```
#include<stdio.h>
int main()
{
  int i;
  char str[30];
  Printf("Enter a string =");
  Scanf("%s", &str);
  for(i=0; str[i]; i++);
  Printf("Length of string = %d", i);
  return 0;
}
```

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

```
#include<stdio.h>
int main()
{
   int i, j, c=0;
   char str[50], n;
   Printf("Enter a string=");
   gets(str);
   Printf("Enter a character to find his occurrence=");
   Scanf("%c", &n);
   For(i=0; i<str[i]; i++)
   {
      if(str[i]==n)
      {
        c++;
      }
   }
   Printf("Total occurrence of <%c> is this string = %d", n, c);
   return 0;
}
```

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

```
#include<stdio.h>
int main()
{
   char str[50];
   int i, c=0;
   Printf("Enter a string =");
   gets(str);
   For(i=0; i<str[i]; i++)
   {
      if(str[i]=='a' || str[i]=='e' || str[i]=='i' || str[i]=='o' || str[i]=='u' str[i]
      || str[i]=='E' || str[i]=='I' || str[i]=='O' || str[i]=='U')
      {
        c++;
      }
   }
   Printf("Total Vowel in this string = %d", c);
   return 0;
}
```

④ write a program to convert a given string into upper case

```
#include<stdio.h>
int main()
{
  char str[50];
  int i;
  printf("Enter a string =");
  gets(str);
  printf("String in upper case =");
  for(i=0; i<str(i); i++)
  {
    if(str(i)>96&&str(i)<123)
    {
      str[i] = str[i]-32;
      printf("%c", str[i]);
    }
    else
      printf("%c", str[i]);
  }
  return 0;
}
```

⑤ write a program to convert a given string into lower case.

```
#include<stdio.h>
int main()
{
  int i;
  char str[50];
  printf("Enter a string =");
  gets(str);
  printf("String in lower case =");
  for(i=0; i<str[i]; i++)
  {
    if(str[i]>64&&str[i]<91)
    {
      str[i] = str[i]+32;
      printf("%c", str[i]);
    }
    else
      printf("%c", str[i]);
  }
  return 0;
}
```

⑥ write a program to reverse a string.

```
#include<stdio.h>
int main()
{
  char[str];
  int i, j;
  printf("enter a string =");
  gets(str);
  for(i=0; i<str[i]; i++)
  printf("Reverse string is =");
  for(j=0; j>=0; j--)
  {
    printf("%c", str[j]);
  }
  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>
int main()
{
    int i, c=0,d=0, e=0;
    char str[50];
    printf("enter a string = ");
    gets(str);
    for(i=0; i<str[i]; i++)
    {
      if(str[i]>64&&str[i]<91|| str[i]>96&&str[i]<123)
      {
        c++;
      }
      else if (str[i]>47&&str[i]<58)
      {
        d++;
      }
      else
        c++;
    }
    printf("Total number of Alphabets = %d \n", c);
    printf("Total number of digits = %d\n", d);
    printf("Total number of special character = %d", e);
    return 0;
}
```

⑧ write a program in c to copy one string to another string.

```
#include<stdio.h>
int main()
{
  int i;
  char str[50], d[50];
  printf("Enter a string=");
  gets(str);
  for(i=0; i<str(i); i++)
  {
    d[i] = str[i];
  }
  printf("New Copy string is = ");
  printf("%s", d);
  return 0;
}
```

⑨ write a c program to sort a string array in ascending order.

```
#include<stdio.h>
int main()
{
  int i, j, k;
  char str[50], a;
  printf("Enter a string = ");
  gets(str);
  for(i=0; i<str[i]; i++)
    for(j=0; j<i; j++)
      for(k=j+1; k<i; k++)
```

```
        for (k=0; k<i-j; k++)
            if (str[k] > str[k+1])
            {
                a = str[k];
                str[k] = str[k+1];
                str[k+1] = a;
            }
        printf("After sorting string = %s", str);
        return 0;
    }
```

(10) write a program in c to find the frequency of characters.

```
#include<stdio.h>
int main()
{
    char s[100];
    printf("Enter a string=");
    gets(s);
    int str[256] = {0};
    int i=0;
    while (s[i] != '\0')
    {
        str[s[i++]]++;
    }
    printf("repeated character are=");
    for (i=0; i<256; i++)
        if (str[i] != 0)
        {
            printf("%2c ==> %d \n", i, str[i]);
        }
    return 0;
}
```