Assignment – 17

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

```c
#include<stdio.h>
#include<string.h>
int main()
{
    char str[100];
    int i;
    printf("Enter string : ");
    gets(str);
    for(i=0;str[i];i++);
    printf("Length of string is %d",i);
    return 0;
}
```

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

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

    printf("Enter the string : ");
    gets(str);

    printf("Enter character to be searched : ");
    c=getchar();

    for(i=0;str[i];i++)
    {
        if(str[i]==c)
        {
            count++;
        }
    }

    printf("character '%c' occurs %d times",c,count);
    return 0;
}
```

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

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

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

```
    gets(str);

    for(i=0;str[i];i++)
    {
        if(str[i]=='a' || str[i]=='e' || str[i]=='i' || str[i]=='o' || str[i]=='u')
            count++;
    }

    printf("Number of vowels in given string is : %d",count);
    return 0;
}
```

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

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

    printf("Enter the string : ");
    gets(str);

    for(i=0;str[i];i++)
    {
        if(str[i]>='a' && str[i]<='z')
            str[i]=str[i]-32;
    }

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

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

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

    printf("Enter the string : ");
    gets(str);

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

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

6. Write a program to reverse a string.

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

    printf("Enter the string : ");
    gets(str);

    for(i=0;str[i];i++);
    n=i;

    for(i=n-1;i>=0;i--)
    {
        printf("%c",str[i]);
    }
    return 0;
}
```

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

```c
#include <stdio.h>
#include <string.h>
int main()
{
    char str[100];
    int i,a=0,d=0,s=0;

    printf("Enter the string : ");
    gets(str);

    for(i=0;str[i];i++)
    {
        if(str[i]>='A' && str[i]<='Z' || str[i]>='a' && str[i]<='z')
            a++;
        else if(str[i]>='0' && str[i]<='9')
            d++;
        else
            s++;
    }

    printf("Number of alphabets : %d\n",a);
    printf("Number of digits : %d\n",d);
    printf("Number of special symbols : %d",s);
    return 0;
}
```

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

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

```c
#include<string.h>
int main()
{
    char str[100],copy[100];
    int i;

    printf("Enter the string : ");
    gets(str);

    for(i=0;str[i];i++)
    {
        copy[i]=str[i];
    }

    printf("%s",copy);
    return 0;
}
```

9. Write a C program to sort a string array in ascending order.
```c
#include<stdio.h>
#include<string.h>
int main()
{
    char str[100],temp;
    int i,j,n;

    printf("Enter the string : ");
    gets(str);

    for(i=0;str[i];i++);
    n=i;

    for(i=0;i<n-1;i++)
    {
        for(j=i+1;j<n;j++)
        {
            if(str[i]>str[j])
            {
                temp=str[i];
                str[i]=str[j];
                str[j]=temp;
            }
        }
    }

    printf("After sorting : %s",str);
    return 0;
}
```

10. Write a program in C to Find the Frequency of Characters.
```c
#include<stdio.h>
#include<string.h>
int main()
```

```c
{
    char str[100],count[26]={0};
    int i;

    printf("Enter the string : ");
    gets(str);

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

    for(i=0;str[i];i++)
    {
        count[str[i]-'a']++;
    }

    printf("Frequency of \n");
    for(i=0;i<26;i++)
    {
        if(count[i]>=1)
            printf("%c is %d\n",(i+97),count[i]);
    }
    return 0;
}
```