String and Functions in C Language
Assignment:-18

Name:-Sourav Samanta

1.Write a function to calculate length of the string.

Ans:-

```
#include<stdio.h>
int calculateL(char a[]);
int main()
{
   char str[20]="Sourav Samanta";
   printf("Length of %s is =%d",str,calculateL(str));
   return 0;
}
int calculateL(char a[])
{
   int i;
   for(i=0;a[i];i++);
   return i;
}
```

2. Write a function to reverse a string.

Ans:-

```
#include<stdio.h>
void reverse(char a[]);
int main()
{
   char str[20]="abcdefghijkl";
   reverse(str);
   return 0;
}
void reverse(char a[])
{
   int i,j;
   char ch;
   for(i=0;a[i];i++);
   if(i%2)
      for(j=0;j<=i/2;j++)
      {
        ch=a[j];
        a[j]=a[i-j-1];
        a[i-j-1]=ch;
      }
```

```
   else
      for(j=0;j<=i/2-1;j++)
      {
         ch=a[j];
         a[j]=a[i-j-1];
         a[i-j-1]=ch;
      }
   printf("%s",a);

}
```

3. Write a function to compare two strings.

Ans:-

```
#include<stdio.h>
int comparestring(char *,char *);
int main()
{
   char a[20],b[20];
   printf("Enter two string\n");
   fgets(a,20,stdin);
   fgets(b,20,stdin);
   if(comparestring(a,b))
      printf("Two string are not same");
   else
      printf("Two string are same");
   return 0;
}
int comparestring(char *p,char *q)
{
   int i=0,flag=0;
   while(*(p+i)!='\0' && *(q+i)!='\0')
   {
      if(*(p+i) != *(q+i))
      {
         flag=1;
         break;
      }
      i++;
   }
   if(flag)
      return 1;
   return 0;
}
```

4. Write a function to transform string into uppercase .

Ans:-

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

```
void lowertoupper(char a[]);
int main()
{
   char str[20]="abcdefghijkl";
   lowertoupper(str);
   return 0;
}
void lowertoupper(char a[])
{
   int i,j;
   for(i=0;a[i];i++)
   {
      if(a[i]>='a' && a[i]<='z')
        a[i]-=32;
   }
   printf("%s",a);
}
```

5. Write a function to transform a string into lowercase.

Ans:-

```
#include<stdio.h>
void uppertolower(char a[]);
int main()
{
   char str[20]="ABCDEFGHIJKLMNOPQ";
   uppertolower(str);
   return 0;
}
void uppertolower(char a[])
{
   int i,j;
   for(i=0;a[i];i++)
   {
      if(a[i]>='A' && a[i]<='Z')
        a[i]+=32;
   }
   printf("%s",a);
}
```

6. Write a function to check whether a given string is an alphanumeric string or not. (Alphanumeric string must contain at least one alphabet and one digit)

Ans:-

```
#include<stdio.h>
void alphanumeric(char a[]);
int main()
{
   char s[20]="abcdb007";
```

```
   alphanumeric(s);
   return 0;
}
void alphanumeric(char str[])
{
   int i,counta=0,countd=0,countc=0;
   for(i=0;str[i];i++)
   {
      if((str[i]>='a' && str[i]<='z') ||(str[i]>='A' && str[i]<='Z') )
         counta++;
      else if(str[i]>='0' && str[i]<='9')
         countd++;
      else
         countc++;
   }
   if(counta && countd)
      printf("%s is a alphanumeric string",str);
   else
      printf("%s is not a alphanumeric string",str);
}
```

7. Write a function to check whether a given string is palindrome or not.

Ans:-

```
#include<stdio.h>
int  checkpalindrome(char a[]);
int main()
{
   char str[20]="reviver";
   if(checkpalindrome(str))
      printf("%s is a palindrome",str);
   else
      printf("%s is not a palindrome",str);
   return 0;
}
int  checkpalindrome(char a[])
{
   int i,j,flag=0;
   for(i=0;a[i];i++);
   if(i%2)
      for(j=0;j<=i/2;j++)
      {
        if(a[j]==a[i-j-1])
          flag++;
        else
        {
           flag=0;
           break;
        }
```

```
    }
  else
    for(j=0;j<=i/2-1;j++)
      if(a[j]==a[i-j-1])
       flag=1;
      else
      {
        flag=0;
        break;
      }
  return flag;
}
```

8. Write a function to count words in a given string .

Ans:-

```
#include<stdio.h>
int countword(char a[]);
int main()
{
  char str[50]="Mysirg Education Services limited";
  printf("Number of word in %s is =%d",str,countword(str));
  return 0;
}
int countword(char a[])
{
  int count=1,i;
  for(i=0;a[i];i++)
    if(a[i]==32)
      count++;
  return count;
}
```

9. Write a function to reverse a string word wise. (For example if the given string is “Mysirg Education Services” then the resulting string should be “Services Education Mysirg”).

Ans:-

```
#include<stdio.h>
#include<string.h>
void reverseWord(char a[]);
int main()
{
  char s[100]="Mysirg Education Services";
  printf("%s\n",s);
  reverseWord(s);
  printf("%s",s);
  return 0;
}
void reverseWord(char a[])
```

```
{
    int i,j,k,l,length;
    char c;
    length=strlen(a);
    for(i=0,k=-1;i<=length;i++)
        if(a[i]==' ' || a[i]=='\0')
        {
           for(j=k+1,l=0;j<=(k+i)/2;j++,l++)
           {
              c=a[j];
              a[j]=a[i-l-1];
              a[i-l-1]=c;
           }
           k=i;
        }
    for(i=0;i<length/2;i++)
    {
       c=a[i];
       a[i]=a[length-i-1];
       a[length-i-1]=c;
    }
}
```

10. Write a function to find the repeated character in a given string.

Ans:-

```
#include<stdio.h>
#include<string.h>
void repetedCharcter(char a[]);
int main()
{
   char s[100]="Mysirg Education Services";
   printf("%s\n",s);
   repetedCharcter(s);
   printf("%s",s);
   return 0;
}
void repetedCharcter(char a[])
{
    int i,j,count;
    for(i=0;a[i];i++)
    {
       count = 1;
       for(j=i+1;a[j];j++)
         if(a[i]==a[j] && a[i]!=' ')
            count++;
       if(count>1)
         printf("%c appear %d times\n",a[i],count);
    }
}
```