AIM:	Implement various text processing problems
Program 1	
PROBLEM STATEMENT :	Write a program to count the number of vowels, consonants, total characters, and words in the given string
PROGRAM:	

```
#include <stdio.h>
//Function to find the lenght of string
int len_string(char str[]){
    int i;
    for (i = 0; str[i] != '\0'; ++i);
    return i;
}
//Function which will find all things
void vowels_CONS(char str[])
{
    int vowels1=0;
    for (int i =0;i<len_string(str);i++){
        if(str[i]=='a' || str[i]=='e' || str[i]=='i' || str[i]=='o' || str[i]=='u' || str[i]=='A'|| str[i]=='E'||
str[i]=='I'|| str[i]=='O'|| str[i]=='U' ){
            vowels1++;// add 1 to vowels when it encounter a vowel
        }
    }

    int remaing=len_string(str)-vowels1;
    int spaces=0;
    for (int i =0;i<len_string(str);i++){
        if (str[i]==' '){
            spaces++;
        }
    }
    //Calculation part
    int cons=remaing-spaces;
    int chars;
    chars=cons+vowels1;
    int words;
    words=spaces+1;
    //Print all the desire answer
    printf("Vowels: %d",vowels1);
    printf("\nConsonants: %d",cons);
    printf("\nCharacter: %d",chars);
    printf("\nWords: %d",words);
}
int main()
{
    char str[100];
    //Finish a sentence with a character not space otherwise it will show wrong number of
words.
    printf("Enter a sentence: ");
    scanf("%[^\n]",str);
    vowels_CONS(str);
```

```
    return 0;
}
```

RESULT:

```
Enter a sentence: a life is good
Vowels: 6
Consonants: 5
Character: 11
Words: 4
```

Program 2

PROBLEM STATEMENT :

Write a Menu driven Program to
i)copy one string to another one-by-one character.
ii) Find the string length
iii) compare two strings
iv) reverse the string
v) Concatenate one string to another string.
vi) lower case to upper

PROGRAM:

```
#include <stdio.h>
//Finds the lenght of a strings
int len_string(char str[]){
    int i;
    for (i = 0; str[i] != '\0'; ++i);
    return i;
}
//Copys a string
void copying(char str1[], char str2[]){
    for(int i=0;i<len_string(str1);i++){
        str2[i]=str1[i];
    }
    printf("%s",str2);
}
//Compares two strings
int compare(char str1[], char str2[]){
   for(int i=0;i<len_string(str1);i++){
       if (str1[i]>str2[i])
           return -1;
       else if (str1[i]<str2[i])
           return 1;
       else
           continue;
    }
```

```
    return 0;
}
//Reverses strings
void reverse(char str[],int n){
    char str_new[n];
    int j=len_string(str)-1;
   for(int i=0;i<=len_string(str);i++){
        str_new[i]=str[j];
        --j;
    }
    printf("%s",str_new);
}
//Concatenate Two strinngs
void Concatenate(char str1[], char str2[]){
    char str3[len_string(str1)+len_string(str2)];
    for(int i=0;i<len_string(str1);i++){
        str3[i]=str1[i];
    }
    int j=0;
    for(int i=len_string(str1);i<(len_string(str1)+len_string(str2));i++){
        str3[i]=str2[j];
        j++;
    }

    printf("%s",str3);
}
//Changes from lower caase to upper
void lower(char str1[]){
     for (int i = 0; str1[i]!='\0'; i++) {
        if(str1[i] >= 'a' && str1[i] <= 'z')
            str1[i] = str1[i] - 32;
     }
    printf("%s",str1);
}
int main()
{
    char str1[10]="My life ",str2[10];
    printf("Copying First String to another: ");
    copying(str1,str2);
    printf("\nLenght of string: %d",len_string(str1));
    printf("\nComparing two String:");
    char str3[]="joyous",str4[]="joy";
    if (compare(str3,str4))
        printf(" They are different");
```

```
    else
        printf("Equal");
    printf("\nReversing string 1: ");
    reverse(str1,10);
    printf("\nConcatenate: ");
    Concatenate(str1, str2);
    printf("\nChanging Lower to upper case: ");
    lower(str1);
    return 0;
}
```

RESULT:

```
Copying First String to another: My life
Lenght of string: 8
Comparing two String: They are different
Reversing string 1:  efil yM
Concatenate: My life My life
Changing Lower to upper case: MY LIFE
```

Program 3

PROBLEM STATEMENT:

Write a program which reads a piece of text and outputs any palindromes that it contains.
Input: I AM SURE THE DEED IS ON THE LEVEL MADAM
Output: I DEED LEVEL MADAM

PROGRAM:

```
#include <stdio.h>
 //To check if a string is palindrome or not
int palindrome(char str[],int l){
    for(int i=0;i<l/2;i++){
        if(str[i]!=str[l-i-1]){
            return 0;
            break;
            }
    }
    return 1;
}
int main() {
    char str[200];
    scanf("%[^\n]",str);
    char string[200];
    int b=0;
    for(int i=0;str[i]!='\0';i++){
        if(str[i]!=' '){
```

```
            string[b]=str[i];
            b++;
        }
        if(str[i]==' '){
            string[b]='\0';
            int n=palindrome(string,b);
            if(n==1){
                printf("%s ",string);
            }
            b=0;
        }
        if(str[i+1]=='\0'){
            string[b]='\0';
            int n=palindrome(string,b);
            if(n==1){
                printf("%s ",string);
            }
            b=0;
        }
    }
    return 0;
}
```

RESULT:

```
I AM SURE THE DEED IS ON THE LEVEL MADAM
I DEED LEVEL MADAM
```

CONCLUSION:	We learned to implement various text processing problems