1. Read from a terminal using scanf function and print using printf function.

Program:-

```c
#include <stdio.h>
#include<string.h>
int main()
{
    char n[15];
    printf("enter input string : ");
    scanf("%s",n);
    printf("entered input is: \n");
    printf("%s\n",n);
    return 0;
}
```

Output:-
enter input string : hello
entered input is:
hello

2. read a lines of text from a terminal using fgets function and print using puts function.

Program:-

```c
#include <stdio.h>
#include<string.h>
int main()
{
    char n[15];
    printf("enter input string : ");
    fgets(n,sizeof(n),stdin);
    printf("entered input is: \n");
    puts(n);
    return 0;
}
```

Output:-

enter input string : hey c
entered input is:
hey c

3. convert
a. Upper case to Lower case
b. Lower case to Upper case
c. Toggle case
d. Sentence case

Program:-
        a. Upper case to Lower case

```c
#include <stdio.h>
#include<string.h>
int main() {
    char a[15];
    int i;
    printf("enter your string in upper case : ");
    scanf("%s",a);
    for(i=0;i<=strlen(a);i++)
    {
        if (a[i]>=65&&a[i]<=90)
        a[i]=a[i]+32;
    }
    printf("lowercase is : %s",a);
    return 0;
}
```


OUTPUT:-
enter your string in upper case : HELLO
lowercase is : hello

b. Lower case to Upper case
Program:-
```c
#include <stdio.h>
#include<string.h>
int main() {
    char a[15];
    int i;
    printf("enter your string in LOWER case : ");
    scanf("%s",a);
    for(i=0;i<=strlen(a);i++)
    {
        if (a[i]>=95&&a[i]<=122)
        a[i]=a[i]-32;
    }
    printf("UPPERcase is : %s",a);
    return 0;
}
```

Output:-
enter your string in LOWER case : hello
UPPERcase is : HELLO

c. Toggle case
Program:-

```c
#include <stdio.h>
#include<string.h>
int main() {
    char a[15];
    int i;
    printf("enter your string: ");
    fgets(a,sizeof(a),stdin);
    for(i=0;i<=strlen(a);i++)
    {
        if (a[i]>=65&&a[i]<=90)
        a[i]=a[i]+32;
        else if (a[i]>=97&&a[i]<=122)
        a[i]=a[i]-32;
    }
    printf("in toggle case is : %s",a);
    return 0;
}
```

Output:-

enter your string in lower case : HEllo
upper case is : heLLO

d. Sentence case

Program:-

```c
#include<stdio.h>
#include<string.h>
int main()
{
char str[30],i;

//READ A STRING

printf("Enter A String: ");
fgets(str,sizeof(str),stdin);
for(i=0;str[i]!='\0';i++)
{
if((str[i]>=65 && str[i]<=90) ||(str[i]>=97&&str[i]<=122))
{
if(i==0 || str[i-1]==' ')
    {
    if(str[i]>=97 && str[i]<=122);
        {
        str[i]=str[i]-32;
        }
    }
else
    {
    if(str[i]>=65 && str[i]<=90 )
    {
str[i]=str[i]+32;
    }
    }
    }
}
```

```
printf(" \n sentence case is : ");
puts(str);
return 0;
}
```

Output:-

Enter A String: how are you?

 sentence case is : How Are You?

4. perform String Concatenation (With and Without String Handling Functions).
Program:-(with)

```c
#include <stdio.h>
#include<string.h>
int main() {
    char a[10]={'h','e','l','l','o','\0'};
    char b[5]=    {'c','\0'};
    strcat(a,b);
    puts(a);
    return 0;
}
```

Output:-

helloc

Program:-(without)

```c
#include<stdio.h>

int main()
{
    char str1[15],str2[5];
    int i=0,j=0;
    printf("\nEnter First String: ");
    gets(str1);
    printf("\nEnter Second String: ");
    gets(str2);
    while(str1[i]!='\0')
    i++;
    while(str2[j]!='\0')
    {
        str1[i]=str2[j];
        j++;
        i++;
    }
    str1[i]='\0';
    printf("Concatenated String is %s",str1);
    return 0;
}
```

Output:-

Enter First String: hello
Enter Second String: c
Concatenated String is helloc

5. perform String Reversal (With and Without String Handling Functions).

Program:-(with)

```
#include<stdio.h>
#include<string.h>
int main()
{
    char str[15] = "helloc";

    printf("The given string is =%s\n",str);

    printf("After reversing string is =%s",strrev(str));

    return 0;
```

Output:-

After reversing string is =colleh

Program:-(without)

```
include<string.h>
#include<stdio.h>
int main()
{
    char str[15] = "helloc";
    int len,i;

    printf("The given string is =%s\n",str);
    len=strlen(str);
    printf("After reversing the string is \n");
    for(i=len-1;i>=0;i--)
    {
        printf("%c",str[i]);
    }
```

```
        return 0;
}
```

Output:-
The given string is =helloc
After reversing the string is
colleh

6. perform Substring Extraction (With and Without String Handling Functions).

Program:-(with)
```
#include <stdio.h>
#include<stdio.h>
void main()
{
    char a[25]="i am a good boy in class.";
    char *sub;
    sub=strstr(a,"good");
    printf("substring is : %s",sub);0

}
```
Output:-
substring is : good boy in class.

Program:-(without)

```
#include <stdio.h>

int main()
{
    char str[100], sub[100];
    int pos, len, c = 0;

    printf("Input a string: ");
    gets(str);
```

```c
printf("Enter the starting position  of substring: ");
scanf("%d", &pos);
printf("Enter the length of substring: ");
scanf("%d",&len);

while (c < len) {
    sub[c] = str[pos+c-1];
    c++;
}
sub[c] = '\0';

printf("Required substring is \"%s\"\n", sub);

return 0;
}
```

Output:-

```
Input a string: he is good doctor in our locality
Enter the starting position  of substring: 5
Enter the length of substring: 15
Required substring is "s good doctor i"
```

7. copy one string into another and count the no of elements copied. (With and Without String Handling Functions).
   Program:-(with)

```c
#include <stdio.h>
#include<string.h>
int main() {
char a[15]="hello c";
char b[15];
int i,c=0;
strcpy(b,a);
for(i=0;b[i]!='\0';i++)
{
    c++;
}
printf("after copying string is : %s",b);
printf("\nno of element copied is %d",c);
return 0;
}
```

Output:-
after copying string is : hello c
no of element copied is 7

Program:-(without)
```c
#include<stdio.h>
#include<string.h>
```

```c
int main()
{
    char s1[15],s2[20];
    int i,c=0;

    printf("input the string : ");
    gets(s1);
    for(i=0;s1[i]!='\0';i++)   //   or   for(i=0;s1[i];i++)
    {
        s2[i]=s1[i];
        c++;
    }
    s2[i]='\0';
    printf("original string s1='%s'\n",s1);
    printf("copied string   s2='%s'",s2);
    printf("\nelement copied : %d",c);
    return 0;
}
```

Output:-

input the string : hello c
original string s1='hello c'
copied string   s2='hello c'
element copied : 7

8. read a string and prints if it is a palindrome or not.
   Program:-

```c
#include <stdio.h>
#include <string.h>
int main()
{
    char str[20];
    int i, len;
    int c= 0;
    printf("Enter a string: ");
    scanf("%s", str);

    len = strlen(str);
```

```
    for(i=0;i < len ;i++)
    {
        if(str[i] != str[len-i-1])
        {
            c=1;
            break;
        }
    }

    if (c)
    {
        printf("%s is not a palindrome", str);
    }
    else
    {
        printf("%s is a palindrome", str);
    }
    return 0;
}
```

Output:-
Enter a string: guug
is a palindrome

9. read a line of text and count all occurrences of particular word.
Program:-

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

```c
#include <string.h>
 int main()
{
    char s[200],w[200];
    int n,a[200],i,j,k=0,l,found=0,t=0;

    printf("input the string : ");
    gets(s);
    printf("Enter word for serching inside the string: ");
    gets(w);
    for(i=0;s[i];i++)
    {
        if(s[i]==' ')
        {
            a[k++]=i;
        }
    }
    a[k++]=i;
    j=0;
    for(i=0;i<k;i++)
    {
        n=a[i]-j;
        if(n==strlen(w))
        {
            t=0;
            for(l=0;w[l];l++)
            {
                if(s[l+j]==w[l])
                {
                    t++;
                }
            }
            if(t==strlen(w))
            {
                found++;
            }
        }
        j=a[i]+1;
    }
```

```
    printf(" your word '%s' is occurred %d times in your inputed
string.",w,found);



}
```

Output:-


```
input the string : i am going i am eating i am playing i am sleeping
Enter word for serching inside the string: am
 your word 'am' is occurred 4 times in your inputed string.
```

10. read a string and rewrite it in the alphabetical order.
   Program:-
   #include<stdio.h>
    #include<string.h>
    int main()
     {
            char str[100],temp;
            int i,j;
            printf("Enter the string: ");
            gets(str);
            printf("%s in alphabetical order is: ",str);
            for(i=0;str[i];i++)
            {
            for(j=i+1;str[j];j++)
                    {
              if(str[j]<str[i])
                        {
                    temp=str[j];
                      str[j]=str[i];
                      str[i]=temp;
                         }
                      }
            }
            printf("%s\n",str);
                 return 0;
      }

Output:-
Enter the string: zyxw
in alphabetical order is: wxyz

11. Print the Words Ending with Letter S
Program:-

```c
#include <stdio.h>
#include <string.h>
 void main()
{
    char str[50];
    int i, t, j, len;
     printf("Enter a string : ");
    fgets(str,sizeof(str),stdin);
     len = strlen(str);
     str[len] = ' ';
     printf("words end with s : \n");
    for (t = 0,i = 0; i <strlen(str); i++)
    {
        if ((str[i]==' ') && (str[i-1] == 's'))
        {
            for (j = t; j < i; j++)
             printf("%c", str[j]);
            t = i + 1;
            printf("\n");
        }
        else
        {
            if (str[i] == ' ')
            {
                t = i + 1;
            }
```

```
            }
        }
    }
```

Output:-
Enter a string : cats mats rats pat

words end with s :

cats

mats

rats

12. Delete All Repeated Words in the line of text.

Program:-
```
#include <stdio.h>
#include <string.h>
 int main()
{
    char str[50];
    int i, j, k;

    printf("\ninput a String :  ");
    gets(str);

    for(i = 0; i < strlen(str); i++)
    {
        for(j = i + 1; str[j] != '\0'; j++)
        {
```

```c
            if(str[j] == str[i])
            {
                    for(k = j; str[k] != '\0'; k++)
                    {
                            str[k] = str[k + 1];
                    }
            }
        }
    }
    printf("\n After Removing Duplicate Words = %s ", str);

    return 0;
}
```

Output:-

input a String :

itally

 After Removing Duplicate Words = italy