Assignment 8
Write a C Program for the following problem statements

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

```c
#include <stdio.h>

int main()
{
   char firword[40], secword[40] ;
     printf("Enter text : \n");
     scanf("%s %s", firword, secword);
     printf("\n");
     printf("firword = %s\nsecword = %s\n", firword, secword);
     return 0;
}
```

```
Output:
Enter text : SOA UNIVERSITY
Firword  =  SOA
Secword = UNIVERSITY
```

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

```c
#include <stdio.h>
int main()
{
    char str[100];
  printf("Enter a string: ");
  fgets(str, sizeof(str), stdin);
  puts(str);

   return 0;
}
```

```
Output:
Enter a string: welcome to SOA UNIVERSITY
welcome to SOA UNIVERSITY
```

3. convert
a. Upper case to Lower case

```c
#include <stdio.h>
#include<string.h>
int main()
```

```c
{
   char str[20];
printf("Enter string: ");
gets(str);//reads string from console
printf("String is: %s",str);
printf("\nLower String is: %s",strlwr(str));
   return 0;
}
```

b. Lower case to Upper case

```c
#include<stdio.h>
#include <string.h>
int main(){
char str[20];
printf("Enter string: ");
gets(str);//reads string from console
printf("String is: %s",str);
printf("\nUpper String is: %s",strupr(str));
return 0;
}
```

c. Toggle case

```c
#include<stdio.h>
int main()
{
Char str[100];
int counter;
printf("Enter string: ");
gets(str);
for(counter=0;str[counter]!=null;counter++)
{
if(str[counter]>='A' && str[counter]<='Z')
str[counter]=str[counter]+32;
else if(str[counter]>='a' && str[counter]<='z')
str[counter]=str[counter]-32'
}
printf("string after toggle each character:%s",str);
return 0;
}
```

d. Sentence case

4. perform String Concatenation (With and Without String Handling Functions).

Without using function:

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

```c
void main()
{
char str1[25],str2[25];
  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("\nConcatenated String is %s:",str1);


}
```

With using function:

```c
#include<stdio.h>
void main(void)
{
char a[100], b[100];
  printf("Enter the first string:\n");
   gets(a);
    printf("Enter the second string:\n");
    gets(b);
    strcat(a,b);
   printf("concatenated string is %s:\n",a);
     return 0;  }
```

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

Without String Handling function:

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

  printf("\nEnter the string :");
  gets(str);

  i = 0;
  j = strlen(str) - 1;

  while (i < j) {
    temp = str[i];
    str[i] = str[j];
    str[j] = temp;
    i++;
    j--;
  }

  printf("\nReverse string is :%s", str);

   return 0;
}
```

Output:
Enter the string : soa
Reverse string is :aos

With String Handling function:

```c
#include<stdio.h>
#include<string.h>
void main()
{
   char s[100];
printf("Enter a string to reverse\n");
gets(s);
strrev(s);
printf("Reverse of the string: %s\n", s);
```

```
    return 0;



}
```

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

```c
#include <stdio.h>
void main()
{
  char str[100], sstr[100];
  int position, l, c = 0;

    printf("Input the string : ");
    fgets(str, sizeof str, stdin);

  printf("Input the starting point:");
  scanf("%d", &position);

  printf("Input the length of substring :");
  scanf("%d", &l);

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

  printf("The substring retrieve from the string is : \" %s\ \n\n",sstr );

}
```

```
Output:
Input the string :welcome to soa
Input the starting point:7
Input the length of substring :10
The substring retrieve from the string is : e to soa
```

With String Handling Functions

```c
#include <stdio.h>
void main()
{
  char string[1000], sub[1000];
  int position, length, c = 0;

  printf("Input a string\n");
  gets(string);

  printf("Enter the position and length of substring\n");
  scanf("%d%d", &position, &length);

  while (c < length) {
    sub[c] = string[position+c-1];
    c++;
  }
  sub[c] = '\0';

  printf("Required substring is \"%s\"\n", sub); // '\"' to print "
}
```

Output:
```
Input the string :welcome world
Enter the position and length of  substring 3 7
Required substring is "lcome  w"
```

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

Without String Handling Functions

```c
#include <stdio.h>
 int main()
 {
  char str1[80], str2[80];
int i;
printf("Input a string:");
scanf("%s", str2);
for(i=0; str2[i]!='\0'; i++)
str1[i]=str2[i];
str1[i]='\0';
printf("\n");
printf("original string: %s", str1);
printf("\nNumber of characters = %d\n", i);
```

```
    return 0;
}
```

With String Handling Functions
```
#include <stdio.h>

int main()
{
  char m[100],n[100];

  printf("\n\nEnter the string n: ");
  gets(n);
  strcpy(m, n);
  printf("\n\nThe copied string in m: %s\n\n", m);

   return 0;
}
```

8. read a string and prints if it is a palindrome or not.
```
#include <stdio.h>
#include <string.h>

int main(){
  char string1[20];
  int i, length;
  int flag = 0;

  printf("Enter a string:");
  scanf("%s", string1);

  length = strlen(string1);

  for(i=0;i < length ;i++)
  {
    if(string1[i] != string1[length-i-1])
    {
```

```
            flag = 1;
            break;
      }
}

    if (flag) {
        printf("%s is not a palindrome", string1);
    }
    else {
        printf("%s is a palindrome", string1);
    }
    return 0;
}
```

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

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

int main(){
  char s[100],w[100];
  int n,a[1000],i,j,k=0,l,found=0,t=0;

  printf("Enter  the string : ");
  gets(s);
  printf("Enter word to be searched: ");
  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))
```

```c
            {
                    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("word '%s' is occurred count=%d ",w,found);

    return 0;
}
```

```
Output:
Enter  the string :welcome welcome to soa
Enter word to be searched:welcome
word 'welcome' is occurred count=2
```

10. read a string and rewrite it in the alphabetical order.
```c
#include <stdio.h>
#include <string.h>

int main(){

int i,j,n,ch1,ch2;
char a[50],temp;

printf("enter a string:");
scanf("%s",a);
n=strlen(a);

for(i=1;i<n;++i)
```

```c
for(j=0;j<(n-i);++j)
{
ch1=a[j];
ch2=a[j+1];
if(ch1>ch2)
{
temp=a[j];
a[j]=a[j+1];
a[j+1]=temp;
}
}

printf("String after arranging %s:",a);
    return 0;
}
```

Output:
enter a string:puri
String after arranging :ipru

11. Print the Words Ending with Letter S

```c
#include <string.h>
char str[100];
 void main()
{
char str[100];
  int x, t, j, len;
 printf("Enter a string : ");
 scanf("%[^\n]s", str);
   len = strlen(str);
 str[len] = ' ';
 for (t = 0, x = 0; x < strlen(str); x++)

    {

        if ((str[x] == ' ') && (str[x - 1] == 's'))

        {

            for (j = t; j < x; j++)

                printf("%c", str[j]);
```

```c
        t = x + 1;

        printf("\n");

    }

    else

    {

      if (str[x] == ' ')

      {

        t = x + 1;

      }

    }

  }

}
```

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

```c
#include <stdio.h>

#include <string.h>


int main(){
  char a[100], b[20][20];

    int i, j = 0, k = 0, n, m;

    printf("enter the string\n");
```

```c
scanf("%[^\n]s", a);

for (i = 0;a[i] != '\0';i++)

{

    if (a[i] == ' ')

    {

        b[k][j] = '\0';

        k++;

        j = 0;

    }

    else

    {

        b[k][j] = a[i];

        j++;

    }

}

b[k][j] = '\0';

for (i = 0;i <= k;i++)

{

    for (j = i + 1;j <= k;j++)

    {

        if (strcmp(b[i], b[j]) == 0)
```

```c
            {

                for (m = j;m <= k;m++)

                    {

                        strcpy(b[m], b[m + 1]);

                        k--;

                    } } } }

        for (n = 0;n <= k;n++)

          {

             printf(" %s\n", b[n]);

          }


}
```