ASSIGNMENT 8 ANSWER

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

Program:-

```
#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:-

```
#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

```
#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:-

```
#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:-

```
#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:-

```
#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)

```
#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)

```
#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);

  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)

```
#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)

```
#include<stdio.h>
#include<string.h>
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:-

```
#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>
#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:-

```
#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++)
        {
            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