STRING ASSIGNMENT

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Q1. Write a C program to find length of a string with and without function.

With function

```
#include<stdio.h> int

main()

{    char str[20];

printf("Enter the String\n");

scanf("%[^\n]s", str);    int l =

strlen(str);    printf("Length =

%d", l);

}
```

Without function

```
#include<stdio.h> int

main()

{    char str[20],i;

printf("Enter the String\n");

scanf("%[^\n]s", str);

for(i=0;str[i]!=0;i++)

  {


  }

  printf("%d", i);


}
```

Q2. - Write a C program to copy one string to another string with and without function. **With function**

```
int main()
{
```

```
   char str1[100],str2[100];
printf("Enter the string\n");
gets(str1);     strcpy(str2,str1);
   puts(str2);
}
```

Without function

```
#include<stdio.h>
int main()
{
        int i;
        char a[100], b[100];
printf("Enter your string\n");
scanf("%[^\n]", a);
for(i=0;a[i]!='\0';i++)
                b[i]=a[i];
        b[i]='\0';
        printf("Another string\n%s", b);
        return 0;
}
```

Q 3. Write a C program to concatenate two strings with and without function.

With function

```
//Q:3
#include<stdio.h> #include<string.h>
int main()
{
        char a[100], b[100];
        printf("Enter 1st string\n");
        gets(a);
        printf("Enter 2nd string\n");
        gets(b);
        strcat(a,b);
        printf("Strings after concatenation\n");
        puts(a);
puts(b);  return 0;
}
//Q:3
#include<stdio.h> #include<string.h>
int main()
{
        int i, j;     char
a[100], b[100];
        printf("Enter 1st string\n");
        gets(a);
        printf("Enter 2nd string\n");
        gets(b);
        for(i=0;a[i]!='\0';i++);
a[i]=' ';
        i++;
        for(j=0;b[j]!='\0';j++,i++)
                a[i]=b[j];
a[i]='\0';
        printf("Strings after concatenation\n");
puts(a);  puts(b);
        return 0;
```

}

Q 4.- Write a C program to compare two strings with and without function.

With function

```
//Q:4
#include<stdio.h>
#include<string.h> int
main()
{
        char a[100], b[100];
        printf("Enter 1st string\n");
        gets(a);
        printf("your 2nd string\n");
        gets(b);
        if(strcmp(a,b)==0)
                printf("Identical");
else if(strcmp(a,b)==1)
                printf("string 1st have more ASCII value of mismatching character of string 2nd");
        else
 printf("string 2nd have more ASCII value of mismatching character of string 1st");  return 0;
}
```

Without function

```
//Q:4

#include<stdio.h>

#include<string.h> int

main()

{

        int i, j, c=0;          char

a[100], b[100];     printf("Enter 1st

string\n");

        gets(a);

        printf("your 2nd string\n");

        gets(b);

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

for(j=0;j!=i;j++)

        {

                if(a[j]==b[j])

                        c=c+1;

                else if(a[j]>b[j])

                {

                        printf("string 1st have more ASCII value of mismatching character of string 2nd");
```

```
                        break;

                }

                else

                {

                        printf("string 2nd have more ASCII value of mismatching character of string 1st");

                        break;

                }

        }

        if(c==i)

printf("Identical");  return 0;

}
```

Q 5.- Write a C program to convert lowercase string to uppercase.

```
//Q:5
#include<stdio.h>
int main()
{
        int i;
        char a[100];
        printf("Enter your string\n");
scanf("%[^\n]", a);
        for(i=0;a[i]!='\0';i++)
        {
                if(a[i]>=97 && a[i]<=122)
                        a[i]=a[i]-32;
        }
        printf("String after conversion\n");
        printf("%s", a);
        return 0;
}
```

Q 6.- Write a C program to convert uppercase string to lowercase.

```
//Q:6
#include<stdio.h>
int main()
{
        int i;
        char a[100];
        printf("Enter your string\n");
scanf("%[^\n]", a);             for(i=0;a[i]!='\0';i++)
        {
                if(a[i]>=65 && a[i]<=90)
                        a[i]=a[i]+32;
        }
        printf("String after conversion\n");
        printf("%s", a);
        return 0;
}
```

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Q 7-Write a C program to toggle case of each character of a string.

```
//Q:7
#include<stdio.h>
int main()
{
        int i;
        char a[100];
        printf("Enter your string\n");
scanf("%[^\n]", a);
        for(i=0;a[i]!='\0';i++)
        {
                if(a[i]>=97 && a[i]<=122)
                        a[i]=a[i]-32;
                else if(a[i]>=65 && a[i]<=90)
                        a[i]=a[i]+32;
        }
        printf("String after toggle\n");
printf("%s", a);
        return 0;
}
```

Q 8-Write a C program to find total number of alphabets, digits or special character in a string.

```
//Q:8
#include<stdio.h>
int main()
{
 int i, c1=0, c2=0, c3=0;  char a[100];
        printf("Enter your string\n");
scanf("%[^\n]", a);
        for(i=0;a[i]!='\0';i++)
        {
                if(a[i]>='a' && a[i]<='z' || a[i]>='A' && a[i]<='Z')
        c1=c1+1;
                else if(a[i]>='0' && a[i]<='9')
                        c2=c2+1;
        else
c3=c3+1;
        }
        printf("Total no. of alphabets = %d\n", c1);
printf("Total no. of digits = %d\n", c2);
        printf("Total no. of special character = %d", c3);
        return 0;
}
```

Q 9-

```
//Q:9
#include<stdio.h> int
main()
{
        int i, j=0, k=0, l=0, m=0;
        char a[100], p[100], q[100], r[100], s[100];
        printf("Enter your string\n");
scanf("%[^\n]", a);
        for(i=0;a[i]!='\0';i++)
        {
 if(a[i]=='a' || a[i]=='e' || a[i]=='i' || a[i]=='o' || a[i]=='u' || a[i]=='A' || a[i]=='E' || a[i]=='I' || a[i]=='O' || a[i]=='U')
                {
```

```
                        p[j]=a[i];
                        j++;
                }
                else if(a[i]>='a' && a[i]<='z' || a[i]>='A' && a[i]<='Z')
                {
                        q[k]=a[i];
                        k++;
                }
                else if(a[i]>='0' && a[i]<='9')
                {
                        r[l]=a[i];
                        l++;
                }
                else
                {
                        s[m]=a[i];
                        m++;
        }
        }
        p[j]='\0';
q[k]='\0';      r[l]='\0';
        s[m]='\0';
        printf("string of vowels\n%s\n", p);
printf("string of consonants\n%s\n", q);
printf("string of digits\n%s\n", r);
printf("string of special character\n%s", s);
return 0;
}
```

Q 10-

```
        //Q:10
        #include<stdio.h> int
        main()
        {
                int i, c1=0, c2=0;
        char a[100];
                printf("Enter your string\n");
        scanf("%[^\n]", a);     for(i=0;a[i]!='\0';i++)
                {
                        if(a[i]=='a' || a[i]=='e' || a[i]=='i' || a[i]=='o' || a[i]=='u' || a[i]=='A' ||
        a[i]=='E' || a[i]=='I' || a[i]=='O' || a[i]=='U')
                                c1=c1+1;
                        else if(a[i]>='a' && a[i]<='z' || a[i]>='A' && a[i]<='Z')
                                c2=c2+1;
                }
                printf("Total no. of vowels = %d\n", c1);
        printf("Total no. of consonants = %d", c2);
                return 0;
        }
```

Q11-

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```
#include<stdio.h> int
main()
{
        int i, c=0;
        char a[100];
        printf("Enter your string\n");
scanf("%[^\n]", a);         for(i=0;a[i]!='\0';i++)
                if(a[i]==' ')
                        c=c+1;
if(a[0]==' ' && a[i-1]==' ')
                printf("Total no. of words = %d", c-1);
        else if(a[0]==' ' || a[i-1]==' ')
                printf("Total no. of words = %d", c);
        else
                printf("Total no. of words = %d", c+1);
        return 0;
}
```

Q12-

```
#include<stdio.h> #include<string.h>
int main()
{
        char a[100];
        printf("Enter your string\n");
gets(a);
        strrev(a);
        printf("String after reverse\n");
puts(a);
        return 0;
}
```

Q13-

```
#include<stdio.h> #include<string.h>
int main()
{
        int i, x;
        char a[100], b[100];
        printf("Enter your string\n");
        gets(a);
        for(i=0;a[i]!='\0';i++)
                b[i]=a[i];
        b[i]='\0';
strrev(a);
x=strcmp(a,b);  if(x==0)
                printf("String is palindrome");
        else
                printf("String is not palindrome");
        return 0;
}
```

Q 15-

```
#include<stdio.h>

#include<string.h> int

main()
```

```
{
        int i;
        char a[100], x;
printf("Enter your string\n");
        gets(a);
        printf("Enter the character whose first occurance to be found: ");
        scanf("%c", &x);
        for(i=0;a[i]!='\0';i++)
                if(a[i]==x)
                        break;
        printf("First occurence of  character %c of position is %d", x, i+1);
        return 0;
}
```

Q 16-

```
#include<stdio.h>
#include<string.h> int
main()
{
        int i, j;
        char a[100], x;
        printf("Enter your string\n"); gets(a);        printf("Enter the
character whose last occurance to be found: ");
        scanf("%c", &x);
        for(i=0;a[i]!='\0';i++)
                if(a[i]==x)
                        j=i;
        printf("Last occurence of  character %c of position is %d", x, j+1);
        return 0;
}
```

Q 17-

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

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```
#include<string.h> int

main()

{

        int i;

        char a[100], x;

printf("Enter your string\n");

        gets(a);

        printf("Enter the character whose all occurance to be found: ");

        scanf("%c", &x);

        printf("All occurrence of a character %c of positions is ", x);

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

                if(a[i]==x)

printf("%d ", i+1);         return 0;

}
```

Q 18-

```
#include<stdio.h>

#include<string.h> int

main()

{

        int i, c=0; char a[100], x; printf("Enter your string\n"); gets(a);

printf("Enter the character whose occurrences to be count: ");

        scanf("%c", &x);

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

        {

                if(a[i]==x)

                        c=c+1;

        }

        printf("Number of occurrence of character %c is %d", x, c);

        return 0;

}
```

Q19-

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```
#include<stdio.h> int

main()

{

        int i, max, c[128]={ };

char a[1000];

        printf("Enter your string\n");

scanf("%[^\n]", a);         for(i=0;a[i]!='\0';i++)

                c[a[i]]++;

        max = c[0];

        printf("Highest frequency character is/are

");      for(i=0;i<=127;i++)             if(c[i]>max)

max=c[i];           for(i=0;i<=127;i++)

if(c[i]==max)

                printf("%c ", i);

        return 0;

}
```

Q20

```
#include<stdio.h>

#include<string.h> int

main()

{

        int i, min, x, c[128]={ };

        char a[1000];

        printf("Enter your string\n");

scanf("%[^\n]", a);         for(i=0;a[i]!='\0';i++)

                c[a[i]]++;

        x = c[0];

for(i=0;i<=127;i++)

if(c[i]>x)

x=c[i];

        min=x;
```

```
        for(i=0;i<=127;i++)
if(c[i]<min && c[i]>0)
                min=c[i];
        printf("Lowest frequency character is/are
");      for(i=0;i<=127;i++)          if(c[i]==min)
printf("%c ", i);
        return 0;
}
```

Q41

```
#include<stdio.h>
#include<string.h> int
main()
{
        int i, j, la, lb;      char
a[100], b[100], ra, rb;
printf("Enter 1st string\n");
        gets(a);
        printf("your 2nd string\n");
        gets(b);
la=strlen(a);
lb=strlen(b);      if(la==lb)
        {
                for(i=1;i<=la-1;i++)
for(j=0;j<=la-1-i;j++)
                                if(a[j]>a[j+1])
                                {
                                        ra=a[j];
                a[j]=a[j+1];
a[j+1]=ra;
                                }
                for(i=1;i<=lb-1;i++)
for(j=0;j<=lb-1-i;j++)
```

```
                                        if(b[j]>b[j+1])
                                        {
                                                rb=b[j];
                                b[j]=b[j+1];
b[j+1]=rb;

                                        }
                        if(strcmp(a,b)==0)
                        printf("String is anagram");
                        else
                                printf("String is not anagram");
                }
                else
                        printf("String are not anagram");
return 0;
}
```

Q42

```
#include<stdio.h> int
main()
{
        int i, j;
 char a[100];
        printf("Enter your word\n");
scanf("%s", a);   printf("Your word
is\n");    printf("%s\n\n", a);
for(i=0;a[i]!='\0';i++)
        {
                for(j=0;j<=i;j++)
printf("%c", a[j]);
printf("\n");
        }
        return 0;
}
```

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Q43

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

{
        char a[100];
        int i, l, k, j;
printf("Enter your string\n");
scanf("%[^\n]", a);          l=strlen(a);
for(i=0;i<=l-1;i++)
                if(a[i]==' ')
                {
                    k=i;
break;
                 }   for(i=0;i<=l-
1;i++)
                if(a[i]==' ')
                    j=i;
        printf("Middle name is\n");
for(i=k+1;i<=j-1;i++)
printf("%c", a[i]);            return 0;
}
```

Q44

```
#include<stdio.h>
#include<string.h> int
main()
{
        int choice, l, i;    char
ch, a[100], b[100];
```

```
printf("Menu\n1. Length of string\n2. Copy of one string into another\n3. Capitalize all letters of string\n4. Reverse of string\n5. Comparison of two strings\n");  printf("Enter your choice from Menu\n");  scanf("%d", &choice);

switch(choice)
{
case 1: printf("Enter your string\n");
        scanf("%*c%[^\n]", a);
        l=strlen(a);
        printf("Length of string is %d", l);
        break;
case 2:  printf("Enter one string\n");
        scanf("%*c%[^\n]", a);
printf("Your another string\n");
        strcpy(b,a);
puts(b);
break;
case 3:  printf("Enter your string\n");
        scanf("%*c%[^\n]", a);
for(i=0;a[i]!='\0';i++)
        {
            if(a[i]>=97 && a[i]<=122)
                a[i]=a[i]-32;
        }
        printf("String after capitalize all letters\n");
        puts(a);
break;
case 4:  printf("Enter your string\n");
        scanf("%*c%[^\n]", a);
        strrev(a);
        printf("Reverse of string\n");
        puts(a);
break;
```

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```
        case 5:  printf("Enter 1st string\n");
                 scanf("%*c%[^\n]", a);
printf("Enter 2nd string\n");

                 scanf("%*c%[^\n]", b);
                 if(strcmp(a,b)==0)
                         printf("Identical");
                 else if(strcmp(a,b)==1)
                          printf("string 1st have more ASCII value of mismatching character of string
2nd");
                 else
                         printf("string 2nd have more ASCII value of mismatching character of string
1st");
                 break;
        default:  printf("Invalid choice");
        }
        printf("\nThanks for visiting now you can exit");
        return 0;
}
```

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Q.97 What are the function used for reading a string? If you want to read your full name, which function you will prefer? why?

Ans- gets() function are used for read string and because gets() can read large string until the enter are not coming. so we can read full name by this.

Q.98 What are the ways to initialize 1D and 2D string?

Ans- (i) Compile time initialization
(ii) Run time initialization