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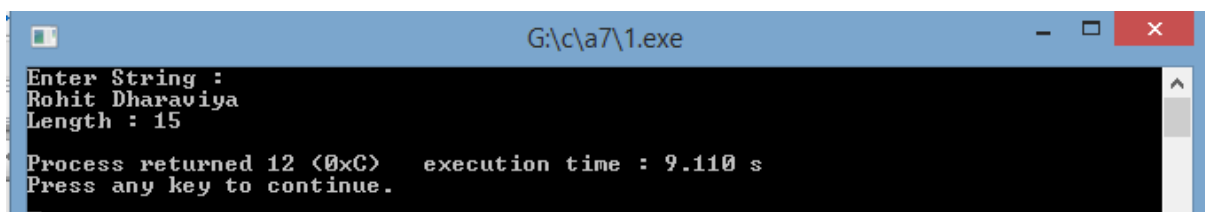
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1) Write a program to find string length using pointer.

```
#include<stdio.h>

main()
{
    char s[20],*cp;
    int i=0;
    printf("Enter String : \n");
    gets(s);
    /*
    while(*cp)
    {
        i++;
        cp++;
    }*/
    //for(i=0;s[i];i++);
    for(cp=s,i=0;*cp;cp++,i++);
    printf("Length : %d\n",i);
}
```



```
G:\c\a7\1.exe
Enter String :
Rohit Dharaviya
Length : 15
Process returned 12 (0xC)   execution time : 9.110 s
Press any key to continue.
```

2) Write a one line code to copy the string into another buffer.

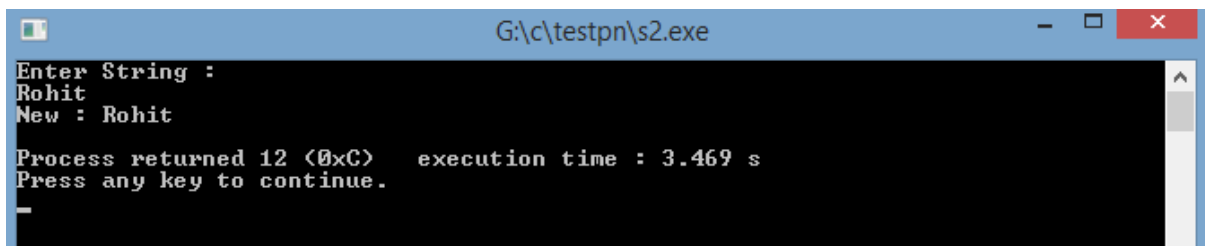
```
#include<stdio.h>

main()
{
    char s[20],d[20],*cp=s,*dp=d;
    int i;

    printf("Enter String : \n");
    scanf("%s",s);
    for(*dp++=*cp++);

    //while(*dp++=*cp++);
    //for(i=0;d[i++]=s[i]);

    //for(i=0;s[i];d[i]=s[i],i++);
    //d[i]='\0';
    printf("New : %s\n",d);
}
```



```
G:\c\testpn\s2.exe
Enter String :
Rohit
New : Rohit
Process returned 12 (0xC)   execution time : 3.469 s
Press any key to continue.
_
```

3) Write a program to find the no. of times the character is found in a given string.

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

```
main()
```

```
{
```

```
    char s[20],ch;
```

```
    int i,k=0;
```

```
    printf("Enter String : ");
```

```
    gets(s);
```

```
    printf("Character :\n");
```

```
    scanf("%c",&ch);
```

```
    for(i=0;s[i];i++)
```

```
    {
```

```
        if(s[i]==ch)
```

```
        {
```

```
            k++;
```

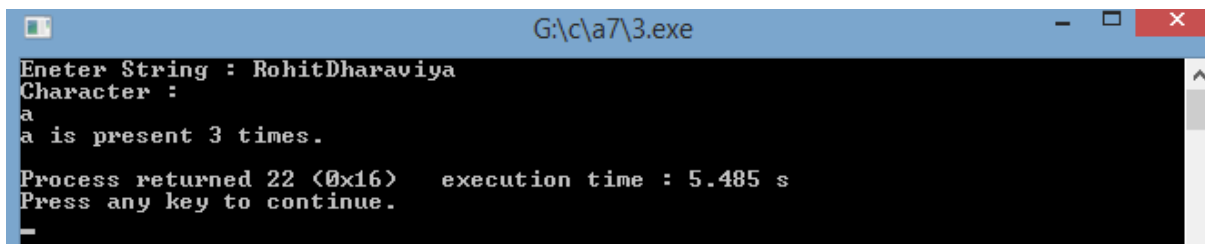
```
        }
```

```
    }
```

```
    if(k>0)
```

```
    {
```

```
    printf("%c is present %d times.\n",ch,k);  
    }  
    else  
    {  
        printf("%c is not present in the string\n",ch);  
    }  
}
```



```
G:\c\a7\3.exe  
Enter String : RohitDharaviya  
Character :  
a  
a is present 3 times.  
Process returned 22 (0x16)   execution time : 5.485 s  
Press any key to continue.  
_
```

4) Write a program to find vowels in a given string.

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

```
main()
```

```
{
```

```
    char s[20],*cp;
```

```
    int i,count=0;
```

```
    printf("Enter string : \n");
```

```
    scanf("%s",s);
```

```
    for(i=0;s[i];i++)
```

```
    {
```

```
        switch(s[i])
```

```
        {
```

```
            case 'a':
```

```
            case 'A':
```

```
            case 'e':
```

```
            case 'E':
```

```
            case 'i':
```

```

        case 'I':

        case 'o':

        case 'O':


        case 'u':

        case 'U':

        count++;

    }

    //if(s[i]=='a' || s[i] == 'e' || s[i]=='i' || s[i] == 'o' || s[i] == 'u' || s[i]=='A' || s[i]
    == 'E' || s[i]=='I' || s[i] == 'O' || s[i] == 'U' )

    }

    printf("Vowels are present : %d times\n",count);

}

```

```

G:\c\testpn\s4.exe
Enter string :
Rohitdharaviya
Vowels are present : 6 times

Process returned 29 (0x1D)   execution time : 4.391 s
Press any key to continue.

```


5) Write a program to compare two strings without using strcmp function.

```
#include<stdio.h>

main()
{
    char s[20],d[20];
    int i;

    printf("Enter String 1 : \n");
    scanf("%s",s);

    printf("Enter String 2 : \n");
    scanf("%s",d);

    for(i=0;s[i];i++)
    {
        if(s[i] != d[i])
            break;
    }
    if(s[i] == d[i])
        printf("Same\n");
    else
        printf("Different\n");
}
```

```
G:\c\testpn\s5.exe
Enter String 1 :
Rohit
Enter String 2 :
Rohit
Same
Process returned 0 (0x0)   execution time : 8.362 s
Press any key to continue.
```

```
G:\c\testpn\s5.exe
Enter String 1 :
ROhit
Enter String 2 :
rohit
Different
Process returned 0 (0x0)   execution time : 3.516 s
Press any key to continue.
```

6) Write a program to reverse the string using loops & recursion.

```
#include<stdio.h>

main()
{
    char s[20],c;
    int i,j;

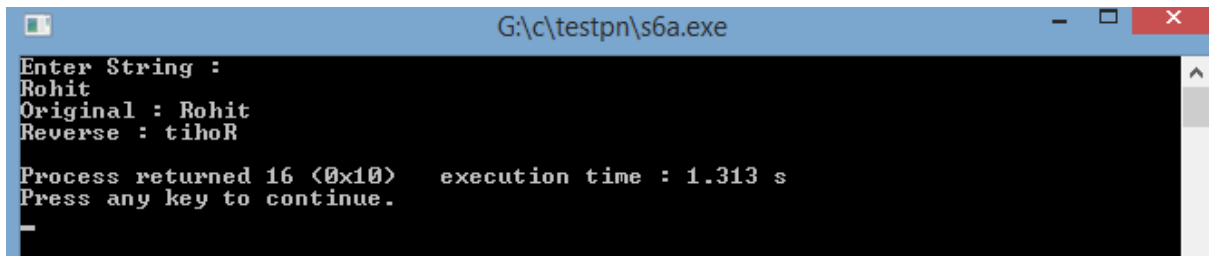
    printf("Enter String : \n");
    scanf("%s",s);

    printf("Original : %s\n",s);

    for(i=0;s[i];i++);

    for(i=i-1,j=0;i>j;i--,j++)
    {
        c=s[i];
        s[i]=s[j];
        s[j]=c;
    }

    printf("Reverse : %s\n",s);
}
```



```
G:\c\testpn\s6a.exe
Enter String :
Rohit
Original : Rohit
Reverse : tihoR
Process returned 16 (0x10)   execution time : 1.313 s
Press any key to continue.
_
```

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

```
void my_rev_rec(char *,char*);
```

```
main()
```

```
{
```

```
    char s[20],c,*p,*q;
```

```
    int i,j,len;
```

```
    printf("Enter String : \n");
```

```
    scanf("%s",s);
```

```
    for(i=0;s[i];i++);
```

```
    len=i;
```

```
    q = s+len-1;
```

```
    my_rev_rec(s,q);
```

```
    printf("\n");
```

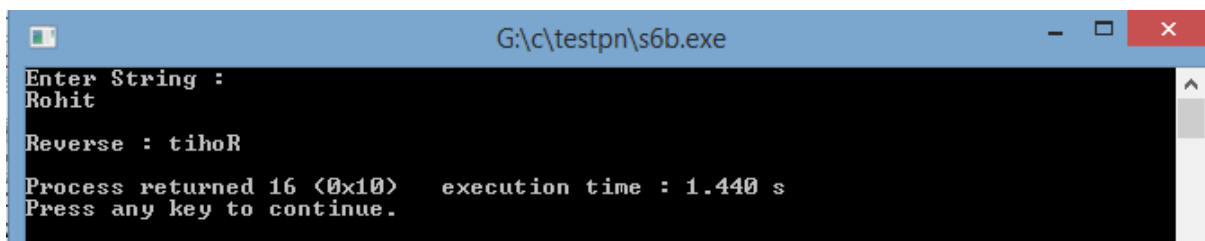
```
    printf("Reverse : %s\n",s);
```

```
}
```

```
void my_rev_rec(char*p, char*cp)
{
    char t;

    if(p < cp)
    {
        t = *p;
        *p = *cp;
        *cp = t;

        my_rev_rec(p+1,cp-1);
    }
}
```



```
G:\c\testpn\s6b.exe
Enter String :
Rohit
Reverse : tihoR
Process returned 16 (0x10)   execution time : 1.440 s
Press any key to continue.
```

7) Write a program to check the given strings are palindrome or not.

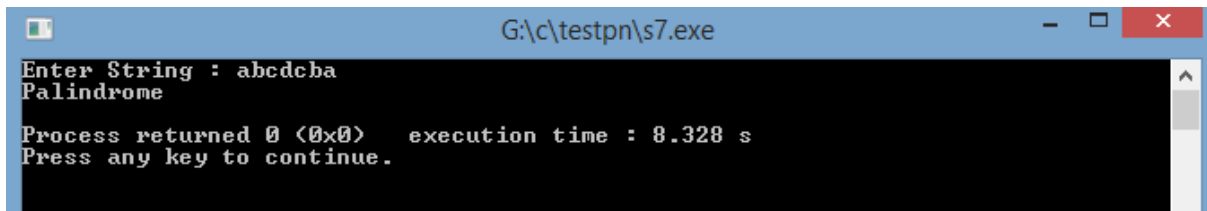
```
#include<stdio.h>

main()
{
    char s[20];
    int i,j;

    printf("Enter String : ");
    scanf("%s",s);

    for(i=0;s[i];i++);

    for(i=i-1,j=0;i>j;i--,j++)
    {
        if(s[i] != s[j])
            break;
    }
    if(i==j)
        printf("Palindrome\n");
    else
        printf("Not...\n");
}
```



```
G:\c\testpn\s7.exe
Enter String : abcdcba
Palindrome
Process returned 0 (0x0)   execution time : 8.328 s
Press any key to continue.
```

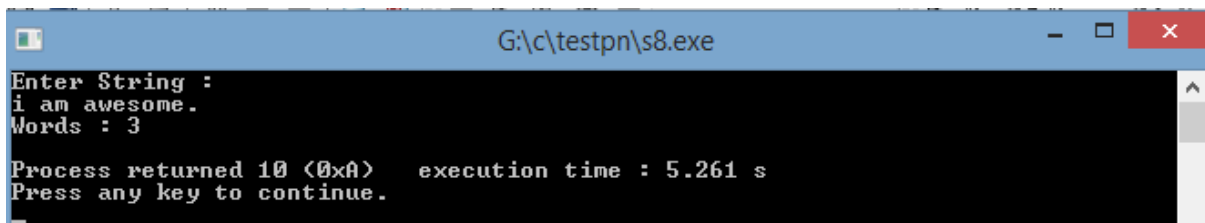
8) Write a program to find the no. of words are present in a given string line.

```
#include<stdio.h>

main()
{
    char s[50];
    int i,c = 1,j = 0;
    printf("Enter String : \n");
    gets(s);

    for(i=0;s[i];i++)
    {
        if(s[i]==32 && s[i+1] !=32)
            c++;
    }
    s[j]='\0';

    printf("Words : %d\n",c);
}
```



```
G:\c\testpn\s8.exe
Enter String :
i am awesome.
Words : 3

Process returned 10 (0xA)   execution time : 5.261 s
Press any key to continue.
```


9) Write a program to delete a desired character in a given string.

```
#include<stdio.h>

main()
{
    char s[20],c;
    int i,j;

    printf("Enter string : \n");
    scanf("%s",s);

    printf("Enter Character : \n");
    scanf(" %c",&c);

    j=0;
    for(i=0;s[i];i++)
    {
        if(s[i] == c)
            continue;
        s[j++] = s[i];
    }
```

```

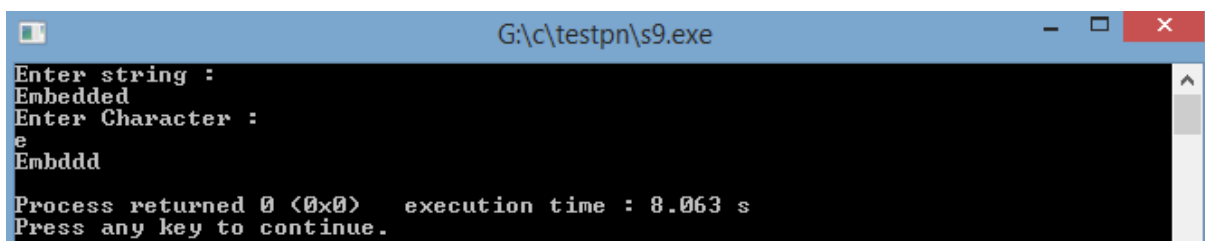
s[j]='\0';

printf("%s\n",s);

/*for(i=0;s[i];i++)
{
if(s[i]==c)
{
for(j=i;s[j];j++)
{
s[j]=s[j+1];
}
i--;
}
}*/

//printf("%s\n",s);
}

```



```

G:\c\testpn\s9.exe
Enter string :
Embedded
Enter Character :
e
Embddd
Process returned 0 (0x0)   execution time : 8.063 s
Press any key to continue.

```

10) Write a program to remove the conjucutive spaces in a given string line.

Ex: Input: Vector India Pvt Ltd

Output: Vector India Pvt Ltd;

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

```
main()
```

```
{
```

```
    char s[50];
```

```
    int i,j=0;
```

```
    printf("Enter String : \n");
```

```
    gets(s);
```

```
    j=0;
```

```
    for(i=0;s[i];i++)
```

```
    {
```

```
        if(s[i]==32 && s[i+1]==32)
```

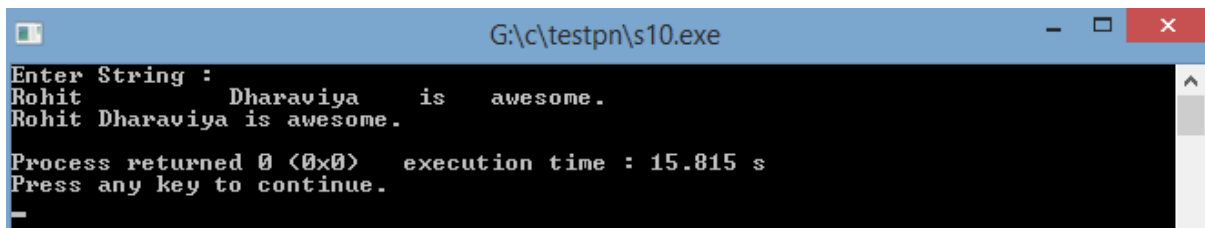
```
            continue;
```

```
        s[j++]=s[i];
```

```
    }
```

```
    s[j]='\0';
```

```
printf("%s\n",s);  
}
```



```
G:\c\testpn\s10.exe  
Enter String :  
Rohit      Dharaviya      is      awesome.  
Rohit Dharaviya is awesome.  
Process returned 0 (0x0)   execution time : 15.815 s  
Press any key to continue.  
_
```

11) Write a program to delete the duplicate characters in a given string.

Ex: Input : vecteeovvorr

Output : vector

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

```
main()
```

```
{
```

```
    char s[20],i,j,k;
```

```
    printf("Enter String : \n");
```

```
    gets(s);
```

```
    for(i=0;s[i];i++)
```

```
    {
```

```
        for(j=i+1;s[j];j++)
```

```
        {
```

```
            if(s[i] == s[j])
```

```
            {
```

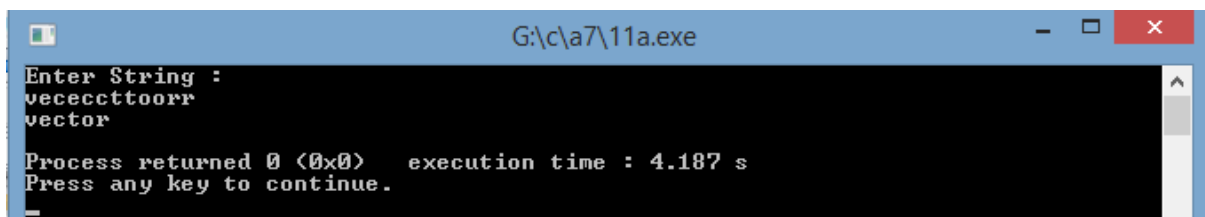
```
                for(k=j;s[k];k++)
```

```
                {
```

```
                    s[k] = s[k+1];
```

```
                }
```

```
        j--;  
    }  
}  
}  
printf("%s\n",s);  
}
```



```
G:\c\a7\11a.exe  
Enter String :  
vececcttoorr  
vector  
Process returned 0 (0x0) execution time : 4.187 s  
Press any key to continue.
```

12) Write a program to print the count of duplicate characters in a given string.

Ex: Input : “hrithik roshan”

Output: Letter ----- Count

h ----- 3

r ----- 2

i ----- 2

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

```
main()
```

```
{
```

```
    char s[30],ch='a';
```

```
    int i,j,k;
```

```
    printf("Enter String : \n");
```

```
    gets(s);
```

```
    while(ch<='z')
```

```
    {
```

```
        j=0;
```

```
        for(i=0;s[i];i++)
```

```
        {
```

```
            if(s[i]==ch)
```

```
        j++;  
    }  
    if(j>1)  
        printf("%c : %d\n",ch,j);  
    ch++;  
}  
}
```



```
Enter String :  
hritik roshan  
h : 2  
i : 2  
r : 2  
  
Process returned 2686720 (0x28FF00)   execution time : 6.666 s  
Press any key to continue.
```


13) Write a program to find count of Lower characters, Upper characters, Special characters and digits occurred in a given string.

```
#include<stdio.h>

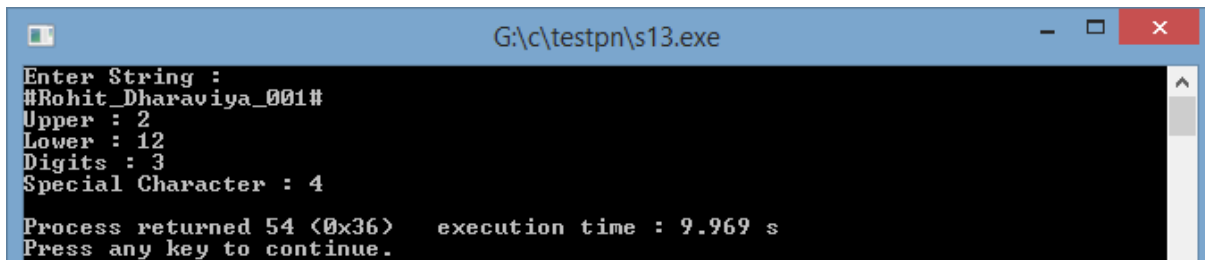
main()
{
    char s[30];
    int i,u,l,st,d;
    char c;

    printf("Enter String : \n");
    gets(s);

    u=l=st=d=0;

    for(i=0;s[i];i++)
    {
        if(s[i] >= 65 && s[i] <= 90)
            u++;
        else if(s[i] >= 97 && s[i] <= 122)
            l++;
        else if(s[i] >= 48 && s[i] <= 57)
            d++;
        else
            st++;
    }
}
```

```
    }  
  
    printf("Upper : %d\nLower : %d\nDigits : %d\nSpecial Character :  
%d\n",u,l,d,st);  
}”
```



```
Enter String :  
#Rohit_Dharaviya_001#  
Upper : 2  
Lower : 12  
Digits : 3  
Special Character : 4  
  
Process returned 54 (0x36)   execution time : 9.969 s  
Press any key to continue.
```

14) Write a program to convert the characters Upper to Lower and Lower to Upper in a given string.

```
#include<stdio.h>

main()
{
    char s[30];
    int i;

    printf("Enter String : \n");
    gets(s);

    for(i=0;s[i];i++)
    {
        if(s[i] == 32)
            continue;
        s[i]=s[i] ^ 32;
    }
    printf("%s\n",s);
}
```

15) Write a program to sort a given string in ascending order.

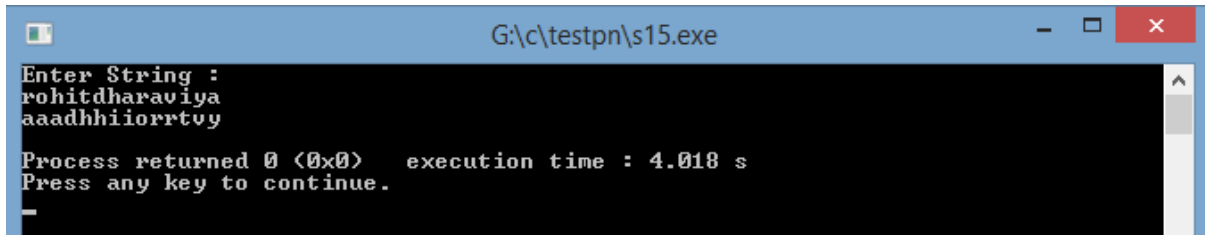
```
#include<stdio.h>

main()
{
    char s[50],c;
    int i,j;

    printf("Enter String : \n");
    gets(s);

    for(i=0;s[i];i++)
    {
        for(j=i+1;s[j];j++)
        {
            if(s[i]>s[j])
            {
                c=s[i];
                s[i]=s[j];
                s[j]=c;
            }
        }
    }
}
```

```
printf("%s\n",s);  
}
```



```
G:\c\testpn\s15.exe  
Enter String :  
rohitdharaviya  
aaadhhiiorrtuy  
Process returned 0 (0x0) execution time : 4.018 s  
Press any key to continue.  
_
```

16) Write a program to accept two strings from user into two character array and copy one by one character into another destination array.

Ex: First String : “abcdefg”

Second String : “1234”

then Destination String is “a1b2c3d4efg”

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

```
main()
```

```
{
```

```
    char s1[20],s2[20],d[40];
```

```
    int i,j,k,l,ls1,ls2;
```

```
    printf("Enter String 1 : \n");
```

```
    scanf("%s",s1);
```

```
    printf("Enter String 2 : \n");
```

```
    scanf("%s",s2);
```

```
    for(i=0;s1[i];i++);
```

```
    ls1=i;
```

```
    for(j=0;s2[j];j++);
```

```
    ls2=j;
```

```
if(ls1<ls2)
```

```
    k=ls1;
```

```
else
```

```
    k=ls2;
```

```
l=0;
```

```
for(i=0,j=0;i<k;i++,j++)
```

```
{
```

```
    d[l++]=s1[i];
```

```
    d[l++]=s2[j];
```

```
}
```

```
if(k==ls1) // k == ls1
```

```
{
```

```
    while(s2[j])
```

```
    {
```

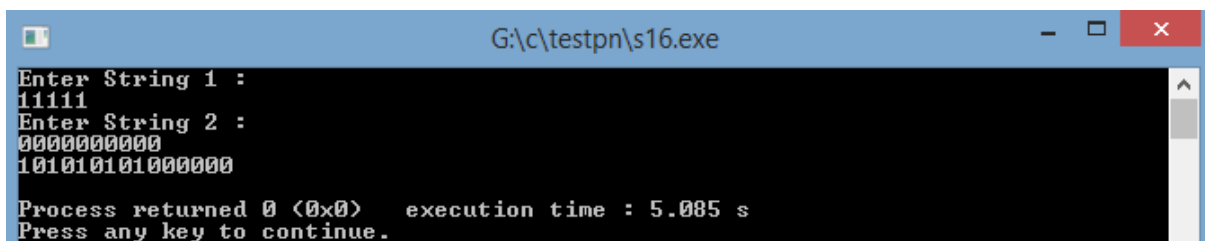
```
        d[l++]=s2[j++];
```

```
    }
```

```
}
```

```
else
```

```
{  
while(s1[i])  
{  
    d[l++]=s1[i++];  
}  
}  
d[l]='\0';  
  
printf("%s\n",d);  
  
}
```



```
G:\c\testpn\s16.exe  
Enter String 1 :  
11111  
Enter String 2 :  
0000000000  
101010101000000  
Process returned 0 (0x0) execution time : 5.085 s  
Press any key to continue.
```


17) Write a program to find the no. of times substring is found in a given string.

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

```
main()
```

```
{
```

```
    char m[30],s[20];
```

```
    int i,j,k=0;
```

```
    printf("Enter String : \n");
```

```
    gets(m);
```

```
    printf("Enter String : \n");
```

```
    gets(s);
```

```
    for(i=0;m[i];i++)
```

```
    {
```

```
        if(m[i] == s[0])
```

```
        {
```

```
            for(j=1;s[j];j++)
```

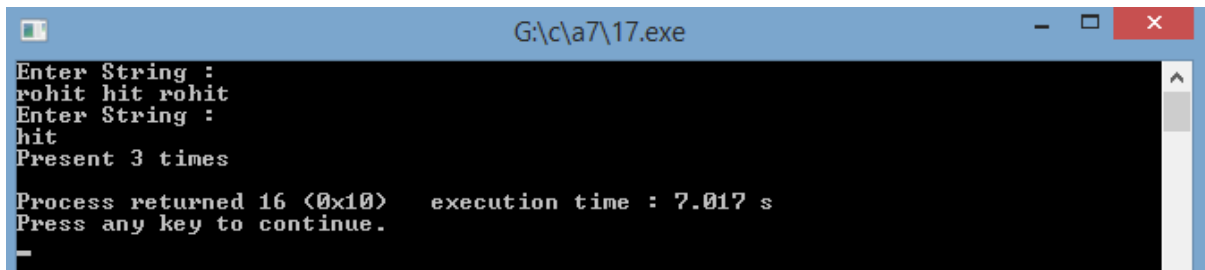
```
            {
```

```
                if(s[j]!=m[i+j])
```

```
                break;
```

```
            }
```

```
        if(s[j]=='\0')  
            k++;  
    }  
}  
  
printf("Present %d times\n",k);  
}
```



```
Enter String :  
rohit hit rohit  
Enter String :  
hit  
Present 3 times  
  
Process returned 16 (0x10)   execution time : 7.017 s  
Press any key to continue.  
_
```

18) Write a program to reverse the words in a given string line.

Ex : “I am a good boy”

“I ma a doog yob”

```
#include<stdio.h>

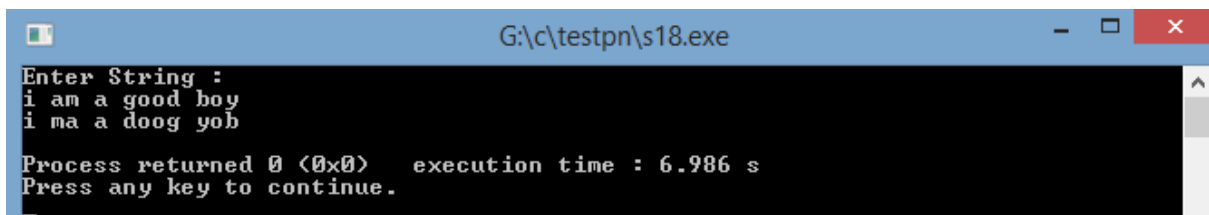
main()
{
    char s[50],c,t;
    int i,j,k,len,m,n;

    printf("Enter String : \n");
    gets(s);

    for(i=0;s[i];i++);
    len=i;

    for(i=0;s[i];i++)
    {
        m=i;
        for(;s[i]!=32 && s[i];i++);
        n=i-1;
        for(;m<n;m++,n--)
        {
            t=s[m];
```

```
        s[m]=s[n];  
        s[n]=t;  
    }  
}  
printf("%s\n",s);  
  
}
```



```
G:\c\testpn\s18.exe  
Enter String :  
i am a good boy  
i ma a doog yob  
Process returned 0 (0x0) execution time : 6.986 s  
Press any key to continue.
```

19) Write a program to replace the words in reverse order in a given string line.

Ex: Input : “world changed your thoughts”

Output : “thoughts your changed world”

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

```
main()
```

```
{
```

```
    char s[50],c,t;
```

```
    int i,j,k,len,m,n;
```

```
    printf("Enter String : \n");
```

```
    gets(s);
```

```
    for(i=0;s[i];i++);
```

```
    len=i;
```

```
    for(i=0,j=len-1;i<j;i++,j--)
```

```
    {
```

```
        c=s[i];
```

```
        s[i]=s[j];
```

```
        s[j]=c;
```

```
    }
```

```

    printf("%s\n",s);

    for(i=0;s[i];i++)
    {
        m=i;

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

        n=i-1;

        for(;m<n;m++,n--)
        {

            t=s[m];

            s[m]=s[n];

            s[n]=t;

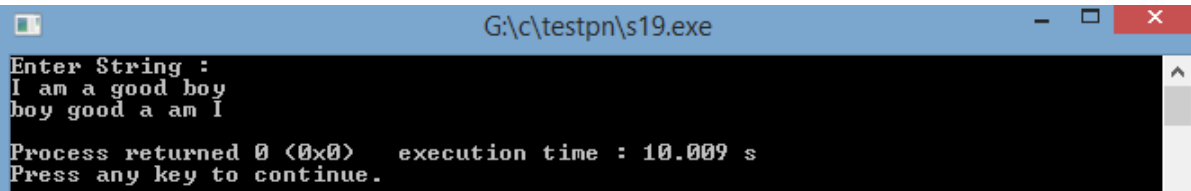
        }

    }

    printf("%s\n",s);

}

```



```

G:\c\testpn\s19.exe
Enter String :
I am a good boy
boy good a am I
I am a good boy
Process returned 0 (0x0)   execution time : 10.009 s
Press any key to continue.

```

20) Write a program to declare an array of string pointers. Use function “input” to input the strings from stdin into array of string pointers, sort them in ascending order according to string length.

Note: Use DMA.

21) Write a program to read two strings through the keyboard like the following example and replace any word of the second string with the first string.

Ex: Input:- Fist String : “Tomorrow”
 Second String : “Today is Sunday”
 Replace word : “Today”.

Output:- “Tomorrow is Sunday”

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

main()
{
    char s1[30],s2[30],s3[20];
    int i,j,k,l1,l2,l3,m,l,c;

    printf("Enter String : \n");
    gets(s1);

    printf("Replace Word : \n");
    gets(s2);
```



```
printf("Replace with the word : \n");
```

```
gets(s3);
```

```
l1=strlen(s1);
```

```
l2=strlen(s2);
```

```
l3=strlen(s3);
```

```
for(i=0;s1[i];i++)
```

```
{
```

```
if(s1[i] == s3[0])
```

```
{
```

```
    for(j=1;s3[j];j++)
```

```
        if(s3[j]!=s1[i+j])
```

```
            break;
```

```
        if(s3[j]=='\0')
```

```
        {
```

```
            l1=l1+l2-l3;
```

```
            for(c=l3;c>0;c--)
```

```
                for(k=i;s1[k];k++)
```

```
                    s1[k]=s1[k+1];
```

```
            for(c=l2;c>0;c--)
```

```
                for(k=l1;k>=i;k--)
```

```
        s1[k+1]=s1[k];

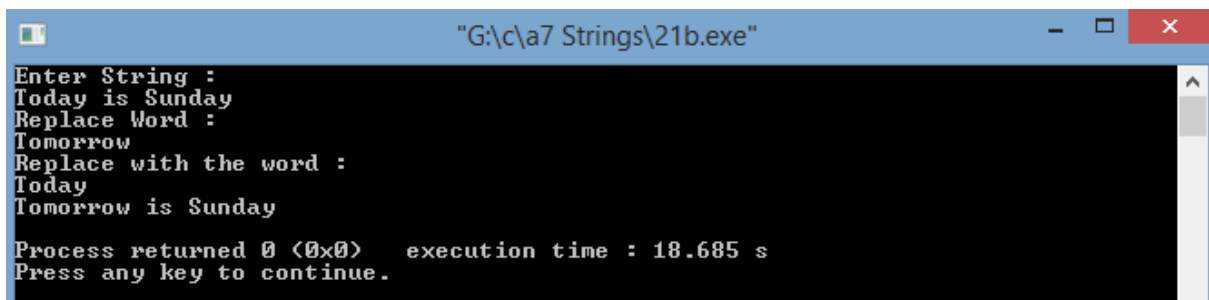
        for(k=0;k<12;k++)

            s1[i+k]=s2[k];

    }

}

printf("%s\n",s1);
}
```



```
"G:\c\7 Strings\21b.exe"
Enter String :
Today is Sunday
Replace Word :
Tomorrow
Replace with the word :
Today
Tomorrow is Sunday

Process returned 0 (0x0)   execution time : 18.685 s
Press any key to continue.
```

22) Write a program to check given strings are anagram or not.

Note : Both strings are anagram, if both contains same elements, same no. of times in any order. (Can have extra special characters & digits also)

Ex: "Osama bin laden" , "Old man in a base" both are anagrams

“study”, “**dus%@ty123**” both are anagrams.

Here after removing special characters and digits ----> “ **dusty** “.

```
#include<stdio.h>

main()
{
    char s1[30],s2[30],ch = 'a';
    int i,j,k=0,m=0,n=0,t;

    printf("Enter string 1 : \n");
    scanf("%s",s1);

    printf("Enter string 2 : \n");
    scanf("%s",s2);

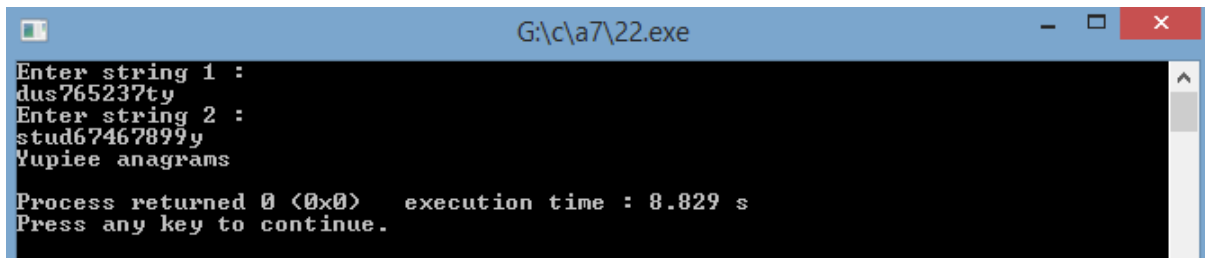
    //for(i=0;s1[i];i++);
    //lena=i;

    while(ch <= 'z')
    {
```

```

    m=0;
    n=0;
    for(i=0;s1[i];i++)
    {
        if(s1[i] == ch)
            m++;
    }
    for(j=0;s2[j];j++)
    {
        if(s2[j] == ch)
            n++;
    }
    if(m!=n)
        break;
    //else
    //k++;
    ch++;
}
if(m==n)
printf("Yupiee anagrams\n");
else
printf("Nope...\n");
}

```



```
Enter string 1 :  
dus765237ty  
Enter string 2 :  
stud67467899y  
Yupiee anagrams  
  
Process returned 0 (0x0)   execution time : 8.829 s  
Press any key to continue.
```

23) Write a program for Decryption of a given Encrypted string line with respect to given key number.

The letter at position of the key and a multiple of key is interchanged with the next letter. Spaces and special characters are to be ignored. If the letter is the last one in the array, then no interchange is required.

Design a function called Decryptor to receive the Encrypted data from the main function and decrypt the data.

4 8 12 16 20 24 28 32 36

Ex: Input String : “Exp~~cet~~ Por~~bl~~mes ad~~n~~ eat the~~f~~ mor r~~bea~~fkast”.

If Key : 4 then, 4 multiples ---> 4,8,12,16,20,24,28,32,36 these letters has to interchange with next Characters.

Output String : “Ex~~p~~ect Pro~~b~~lems and eat the~~m~~ for br~~e~~akfast”.

Try this and Know it.

Input String : “Our rgeaetst ewakenss iles ni giivng pu. thm eos~~c~~ teratin awy ts ouceed si alwyas tt ory ujst noe mroe tmie”.

Key : 4

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

```
main()
```

```
{
```

```
    char s[120],ch;
```

```
    int y,i,j,k,l,t;
```

```
    printf("Enter String : \n");
```

```

gets(s);

printf("String Index : \n");
scanf("%d",&k);

//t=0;

y = k;

for(i=0;s[i];i++)
{
j=i;
if(s[i]!='\0')
if(j == k)
{
ch = s[i];
s[i]=s[i-1];
s[i-1]=ch;
k = k + y;
}
if(s[i]=='\0')
{
j=j+1;
k=k+1;
if(j == k)
{

```

```

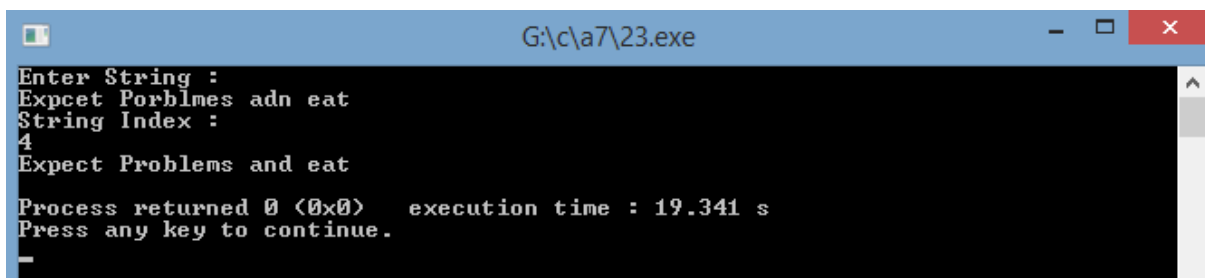
        ch = s[i];
        s[i]=s[i-1];
        s[i-1]=ch;
        k = k + y;
    }

}

}

printf("%s\n",s);
}

```



```

G:\c\a7\23.exe
Enter String :
Expcet Porblmes adn eat
String Index :
4
Expect Problems and eat
Process returned 0 (0x0)   execution time : 19.341 s
Press any key to continue.

```