EXP NO: 01
DATE:14-02-2024

DEVELOP A SIMPLE C PROGRAM TO DEMONSTRATE A BASIC STRING OPERATIONS

AIM:

1.Modify the program to take a string input from the user and display it in uppercase.

PROGRAM:

```c
#include <stdio.h>
#include<string.h>
#include<ctype.h>
int main() {
    char s[20];
    printf("Input:  ");
    scanf("%s",s);
    for(int i=0;i<strlen(s);i++){
        s[i]=toupper(s[i]);
    }
    printf("Ouput:  %s",s);
    return 0;
}
```

OUTPUT:

```
Output

Input:  hello
Ouput:  HELLO

=== Code Execution Successful ===
```

RESULT:

The program is successfully executed and the output is verified

AIM:

2.Write a C program to check if a given substring exists within a string without using the strstr()

function. If the substring is found, print its starting index; otherwise, print "Substring not found

PROGRAM:

```c
#include <stdio.h>
#include<string.h>
#include<ctype.h>
int main() {
    char s[20];
    printf("Input String:  ");
    scanf("%s",s);
    char t[20];
    printf("Input SubString:  ");
    scanf("%s",t);
    int index=-1,flag=0;
    for(int i=0;i<strlen(s);i++){
        index=i;
        for(int j=0;j<strlen(t);j++){
            if(s[i]==t[j])
            i++;
            else{
            i=index;
            break;}
        }
        if(i!=index){
            printf("The Substring index starts from %d",index);
            flag=1;
            break;
        }
    }
    if(flag==0)
    printf("-1");
    return 0;
}
```

OUTPUT:

```
Input String:  Hello
Input SubString:  el
The Substring index starts from 1

=== Code Execution Successful ===
```

```
Input String:  Hello
Input SubString:  Hi
-1

=== Code Execution Successful ===
```

RESULT:

The program is successfully executed and the output is verified.

AIM:

3.Extend the program to compare two strings entered by the user and print whether they are the same.

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PROGRAM:

```c
#include <stdio.h>
#include<string.h>
#include<ctype.h>
int main() {
    char s[20];
    printf("String-1:  ");
    scanf("%s",s);
    char t[20];
    printf("String-2:  ");
    scanf("%s",t);
    if(strcmp(s,t)==0)
    printf("Strings are Same");
    else
    printf("Not Same");
    return 0;
}
```

OUTPUT:

```
Output

String-1:  Hello
String-2:  Hello
Strings are Same

=== Code Execution Successful ===
```

```
Output

String-1:  Hi
String-2:  hi
Not Same

=== Code Execution Successful ===
```

RESULT:

The program is successfully executed and the output is verified.

AIM:

4.Write a program to remove all spaces from a string entered by the user.

PROGRAM:

```c
#include <stdio.h>
#include<string.h>
#include<ctype.h>
int main() {
    char s[20];
    printf("Input:  ");
    scanf("%[^\n]",s);
    char r[20];
    int j=0;
    for(int i=0;i<strlen(s);i++){
        if(s[i]!=' ')
        r[j++]=s[i];
    }
    printf("Ouput:  %s",r);
    return 0;
}
```

OUTPUT:

```
Input:  Hi Good morning
Ouput:  HiGoodmorning

=== Code Execution Successful ===
```

RESULT:

The program is successfully executed and the output is verified.

AIM:

5.Modify the program to calculate the frequency of each character in the string.

PROGRAM:

```c
#include <stdio.h>
#include<string.h>
#include<ctype.h>
int main() {
    int ascii[256];
    for(int i=0;i<256;i++)
    ascii[i]=0;
    char s[20];
    printf("Input-  ");
    scanf("%s",s);
    for(int i=0;i<strlen(s);i++){
        int a=s[i];
        ascii[a]++;
    }
    for(int i=0;i<256;i++){
    if(ascii[i]!=0)
    printf("%c-%d\n",(char)(i),ascii[i]);
    }
    return 0;
}
```

OUTPUT:

RESULT:

The program is successfully executed and the output is verified.

AIM:

6.Extend the program to concatenate two strings entered by the user.

PROGRAM:

```c
#include <stdio.h>
#include<string.h>
#include<ctype.h>
int main() {
    char s[20];
    printf("Input-1:  ");
    scanf("%s",s);
    char t[20];
    printf("Input-2:  ");
    scanf("%s",t);
    strcat(s,t);
    printf("Concatenated String:    %s",s);
    return 0;
}
```

OUTPUT:

```
Output

Input-1:  Good
Input-2:  Morning
Concatenated String:    GoodMorning

=== Code Execution Successful ===
```

RESULT:

The program is successfully executed and the output is verified.

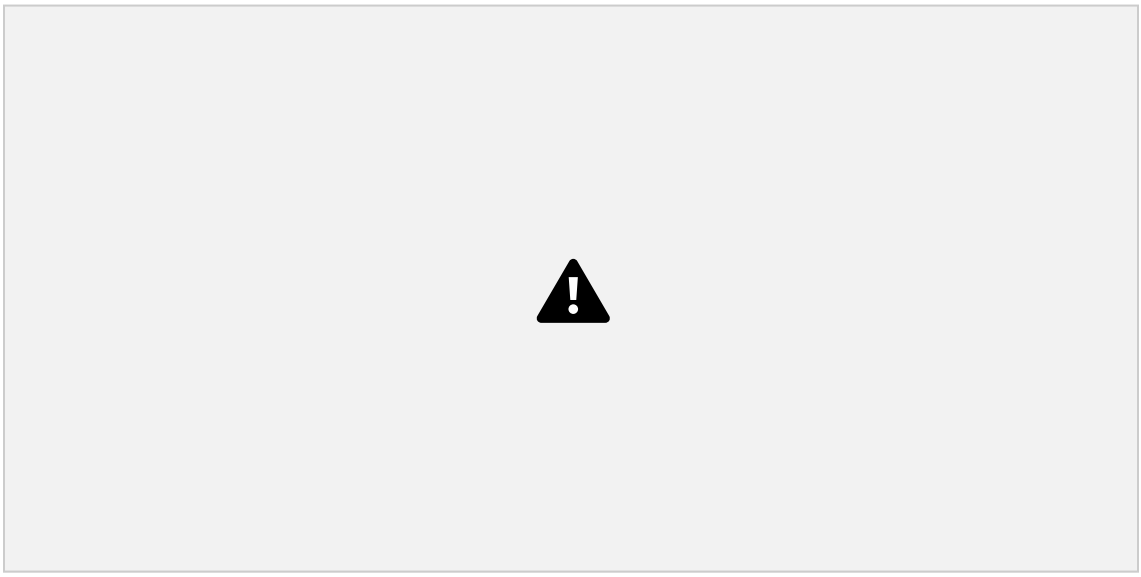
AIM:

7.Write a program to replace all occurrences of a specific character in the string with another character.

PROGRAM:

```c
#include <stdio.h>
#include<string.h>
#include<ctype.h>
int main() {
    char s[20];
    printf("Input-String    :");
    scanf("%s",s);
    char c;
    printf("Character to be changed:");
    scanf(" %c",&c);
    char t;
    printf("Character to be Replaced with:");
    scanf(" %c",&t);
    for(int i=0;i<strlen(s);i++)
    if(s[i]==c)
    s[i]=t;
    printf("Output String:  %s",s);
    return 0;
}
```

OUTPUT:



RESULT:

The program is successfully executed and the output is verified.