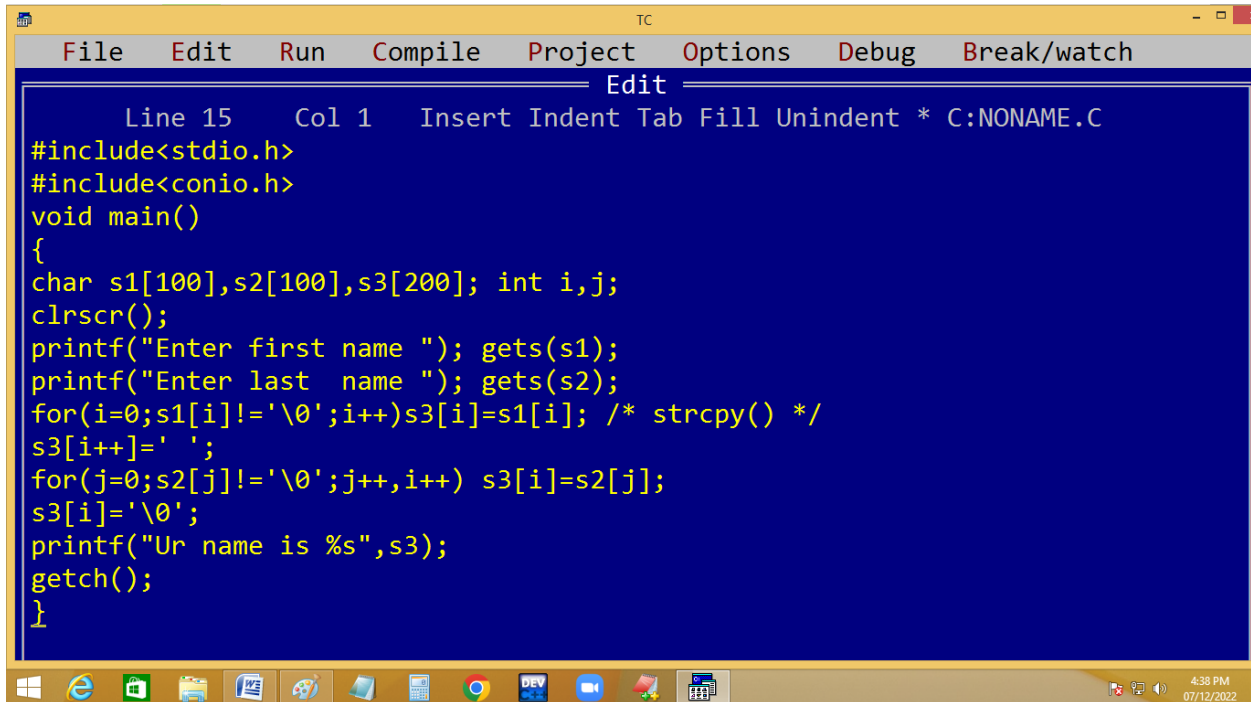


## String concatenation [ adding of two strings ]:



The screenshot shows the Turbo C++ (TC) IDE interface. The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the top indicates 'Line 15', 'Col 1', and 'Insert Indent Tab Fill Unindent \* C:NONAME.C'. The main editing area has a dark blue background with yellow text. The code is as follows:

```
Line 15 Col 1 Insert Indent Tab Fill Unindent * C:NONAME.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s1[100],s2[100],s3[200]; int i,j;
clrscr();
printf("Enter first name "); gets(s1);
printf("Enter last name "); gets(s2);
for(i=0;s1[i]!='\0';i++)s3[i]=s1[i]; /* strcpy() */
s3[i++]=' ';
for(j=0;s2[j]!='\0';j++,i++) s3[i]=s2[j];
s3[i]='\0';
printf("Ur name is %s",s3);
getch();
}
```

The Windows taskbar is visible at the bottom, showing icons for various applications and the system clock displaying 4:38 PM on 07/12/2022.

```
TC
Enter first name Kishore
Enter last name Naidu
Ur name is Kishore Naidu_
```

for(i=0; s1[i]!='\0'; i++) s3[i]=s1[i];

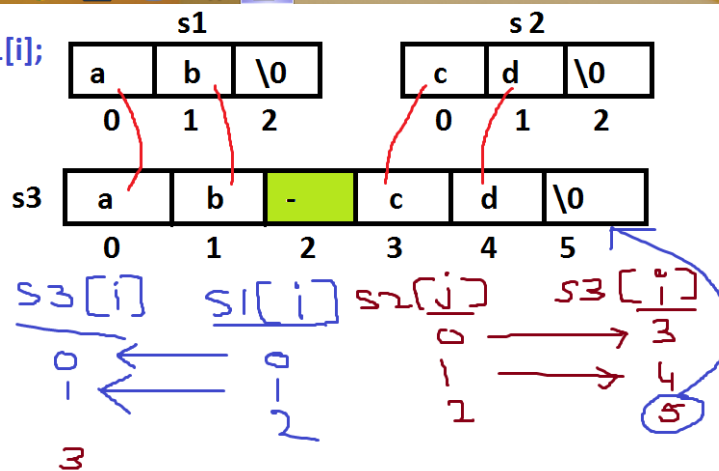
s3[i++]=' '; strcpy

for(j=0; s2[j]!='\0'; j++, i++)

s3[i]=s2[j]; strcat

s3[i]='\0';

p(s3);



## Eg. finding palindrome

Eg. lilil, madam, Malayalam,.....

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the 'Edit' window, displaying a C program to check if a string is a palindrome. The code is as follows:

```
Line 3      Col 18  Insert Indent Tab Fill Unindent * C:NONAME.C
#include<stdio.h>
#include<conio.h>
#include<ctype.h>_
void main()
{
char s1[100],s2[100],s3[200]; int i,j,p=1;
clrscr();
printf("Enter a string "); gets(s1);
for(i=0;s1[i]!='\0';i++); /* strlen()*/
for(j=0;--i>=0;j++)s2[j]=s1[i]; /* rev copy */
s2[j]='\0';
for(i=0;s1[i]!='\0';i++) if(tolower(s1[i])!=tolower(s2[i])){p=0;break;}
if(p==1)puts("Palindrome"); else puts("Not Palindrome");
getch();
}
```

The bottom window is the 'TC' window, showing the execution of the program. It displays the prompt 'Enter a string' followed by the input 'Liril'. The output of the program is 'Palindrome'.

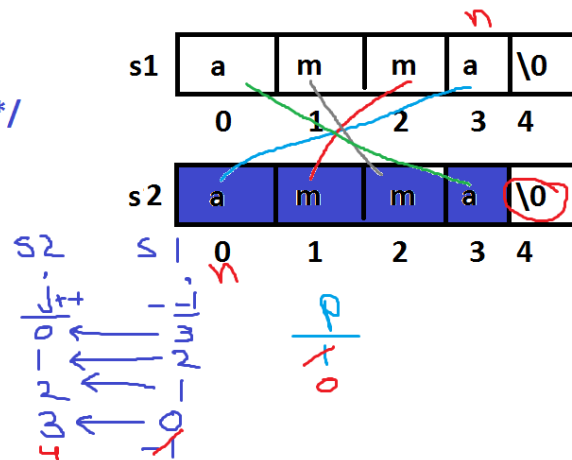
```

for(i=0; s1[i]!='\0'; i++) ;    /* strlen */
for( j=0; --i>=0; j++) s2[ j]=s1[i]; /* rev copy */

for(i=0; s1[i]!='\0'; i++)
{
    /* strcmp() */
    if(s1[i]!=s2[i]){p=0; break;}
}

if(p==1)p(palin);
else p(not);

```



## String library functions:

To manage string operations c provides some library functions available in string.h. They are

1. **strlen()**: It return string length.

**Syntax**: int strlen(string);

2. **strrev()**: It return reverse string.

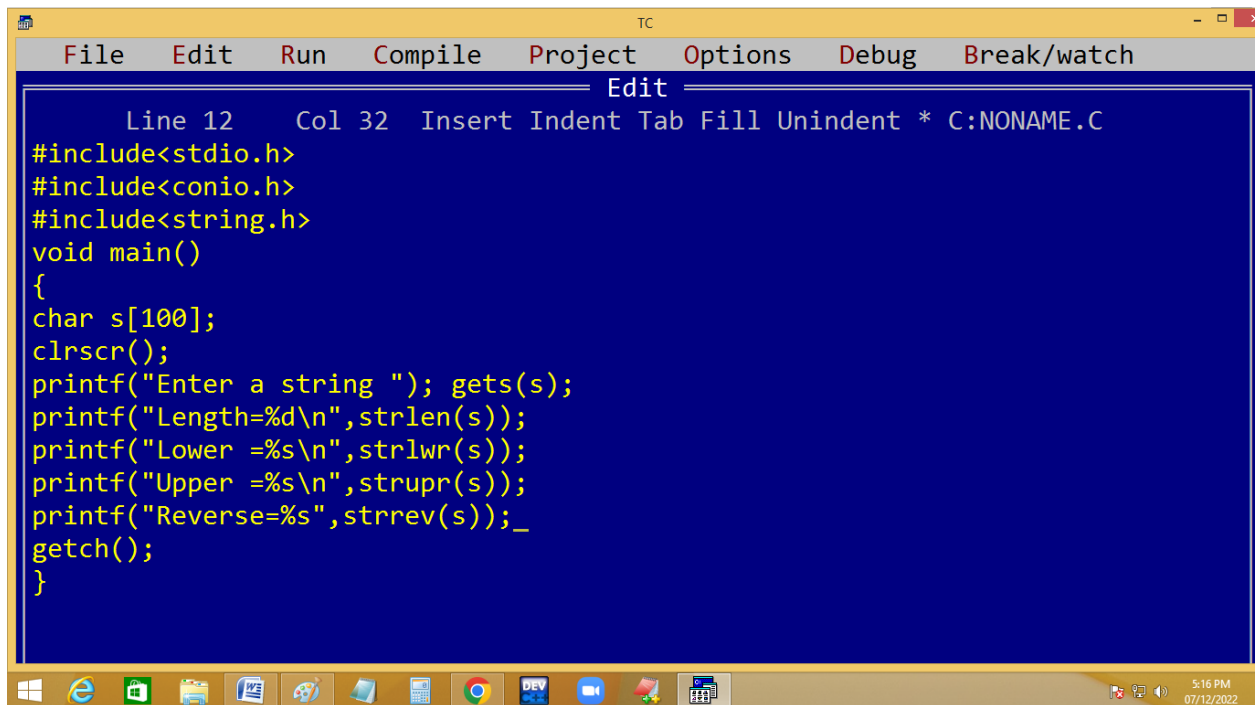
**Syntax**: char \* strrev(string);

3. **strlwr()**: It converts string into lower case.

**Syntax**: char \* strlwr(string);

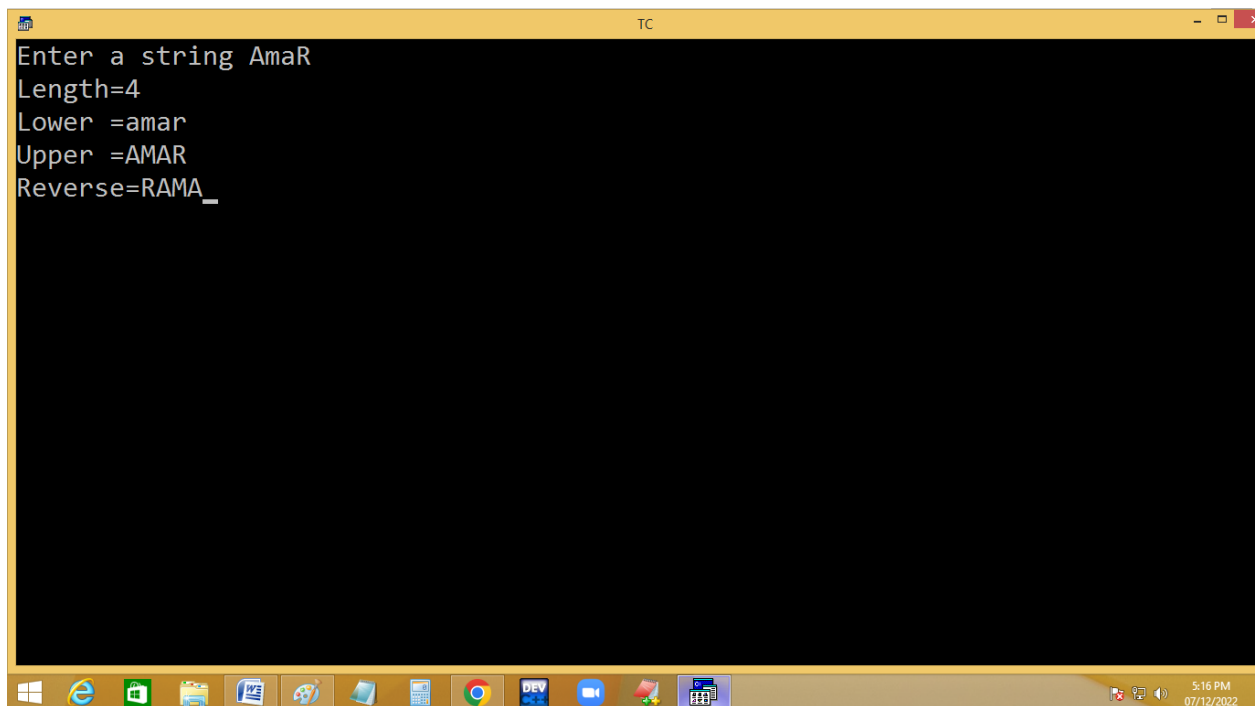
4. **strupr()**: It converts string into lower case.

**Syntax**: char \* strlwr(string);



The screenshot shows the Turbo C++ (TC) IDE with a menu bar (File, Edit, Run, Compile, Project, Options, Debug, Break/watch) and a toolbar. The main window displays the source code for a program named C:\NONAME.C. The code is as follows:

```
Line 12   Col 32   Insert Indent Tab Fill Unindent * C:\NONAME.C
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char s[100];
clrscr();
printf("Enter a string "); gets(s);
printf("Length=%d\n",strlen(s));
printf("Lower  =%s\n",strlwr(s));
printf("Upper  =%s\n",strupr(s));
printf("Reverse=%s",strrev(s));_
getch();
}
```



The screenshot shows the Turbo C++ (TC) IDE with the same menu bar and toolbar. The main window displays the output of the program after running. The output is as follows:

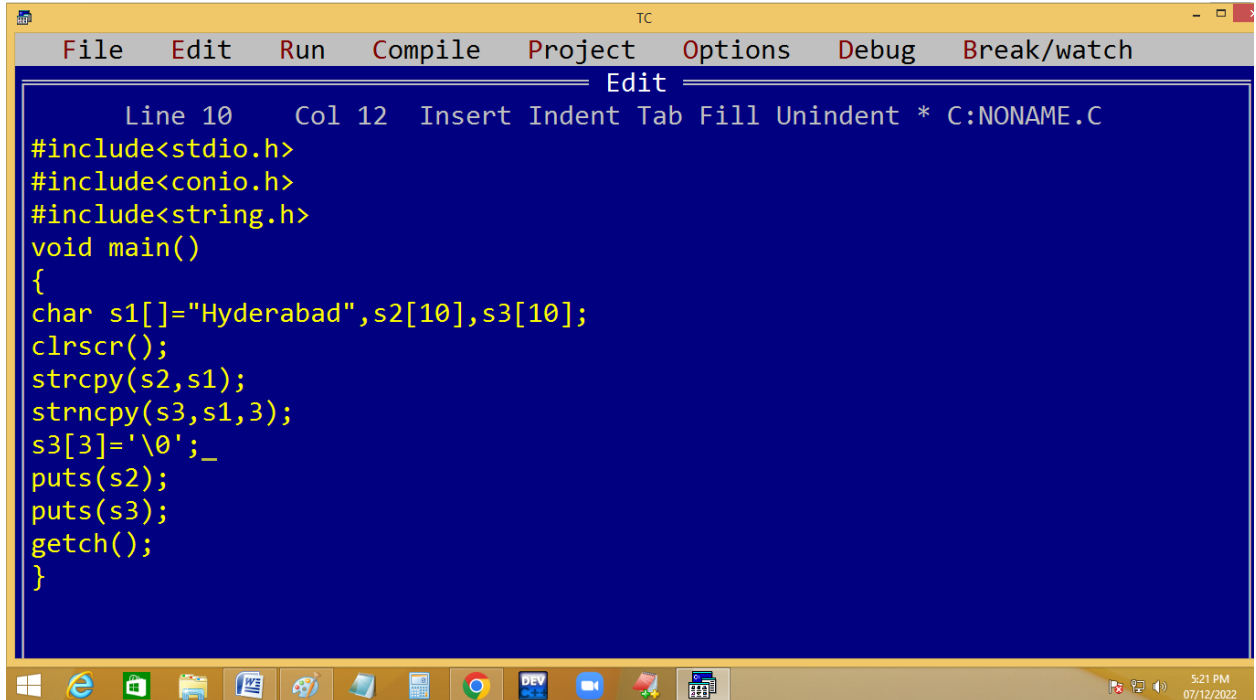
```
Enter a string AmaR
Length=4
Lower  =amar
Upper  =AMAR
Reverse=RAMA_
```

5. **strcpy()**: it copies source string into destination string.

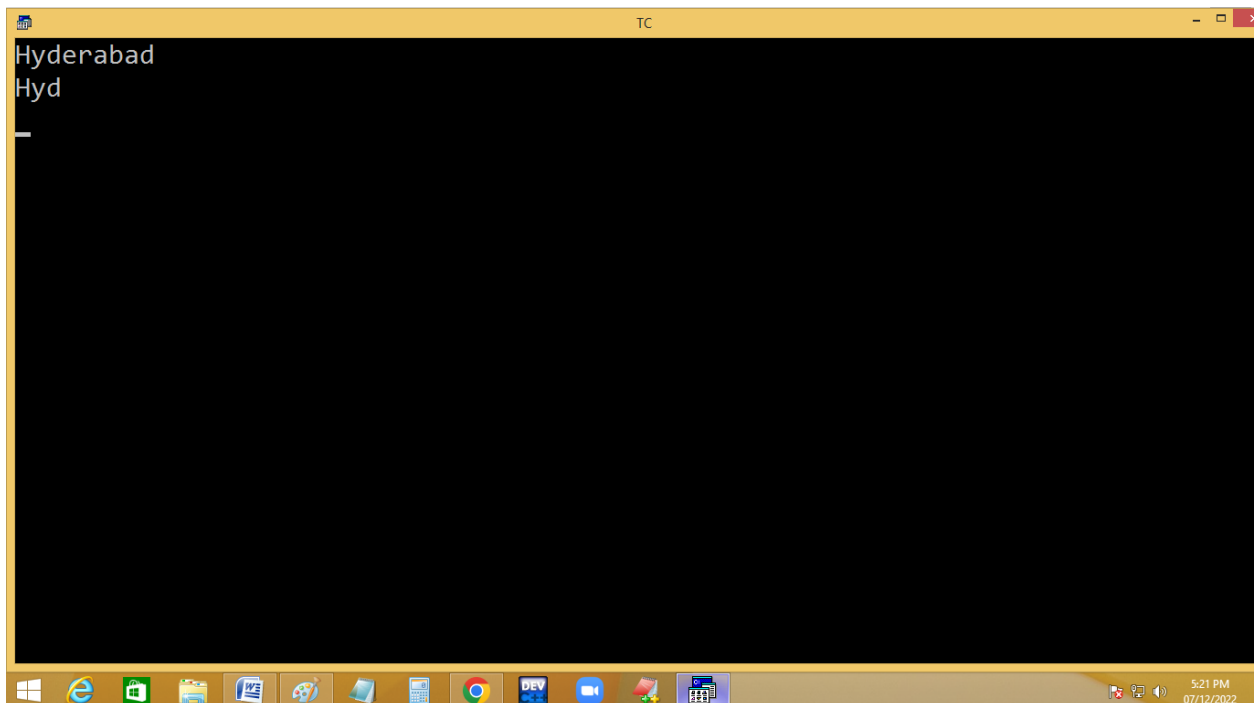
**Syntax**: char \* strcpy(destination string, source string);

6. **strncpy()**: it copies specified no of char into destination string.

**Syntax:** char \* strncpy(dest string, source str, no of char);



```
TC
File Edit Run Compile Project Options Debug Break/watch
Edit
Line 10 Col 12 Insert Indent Tab Fill Unindent * C:NONAME.C
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char s1[]="Hyderabad",s2[10],s3[10];
clrscr();
strcpy(s2,s1);
strncpy(s3,s1,3);
s3[3]='\0';_
puts(s2);
puts(s3);
getch();
}
```



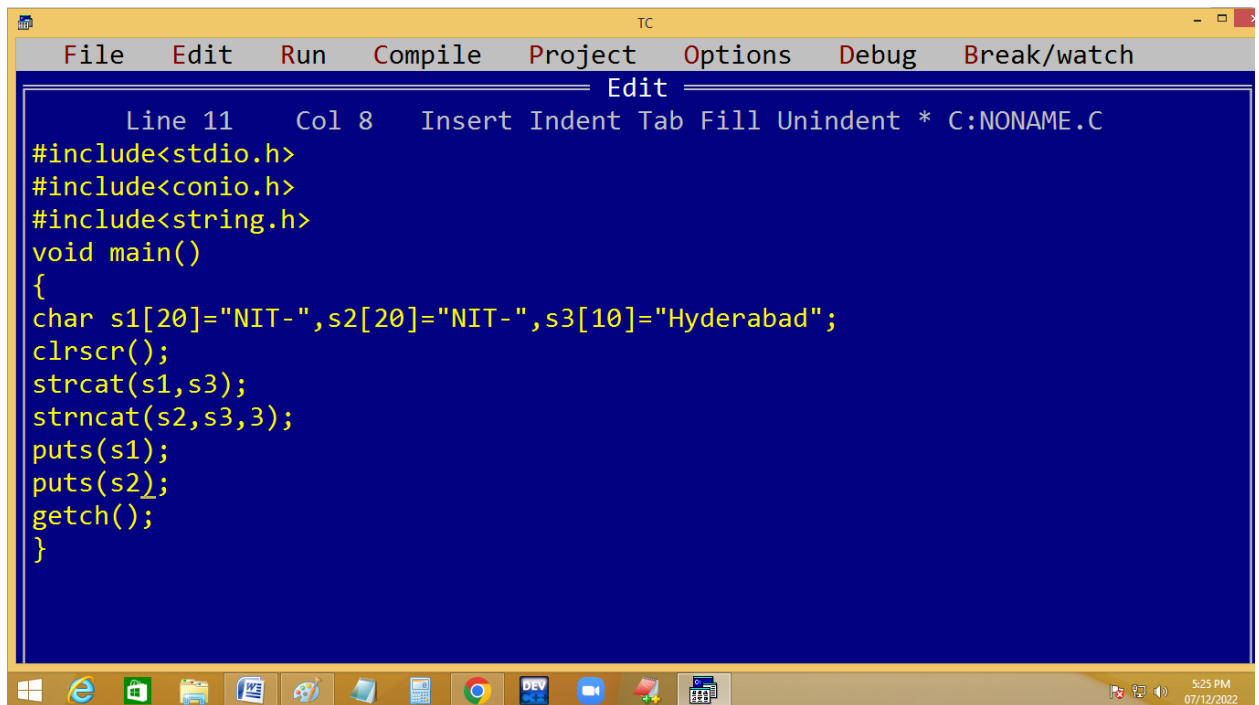
```
TC
Hyderabad
Hyd
_
```

7. **strcat()**: It adds string2 to string1.

**Syntax:** char \* strcat(string1, string2);

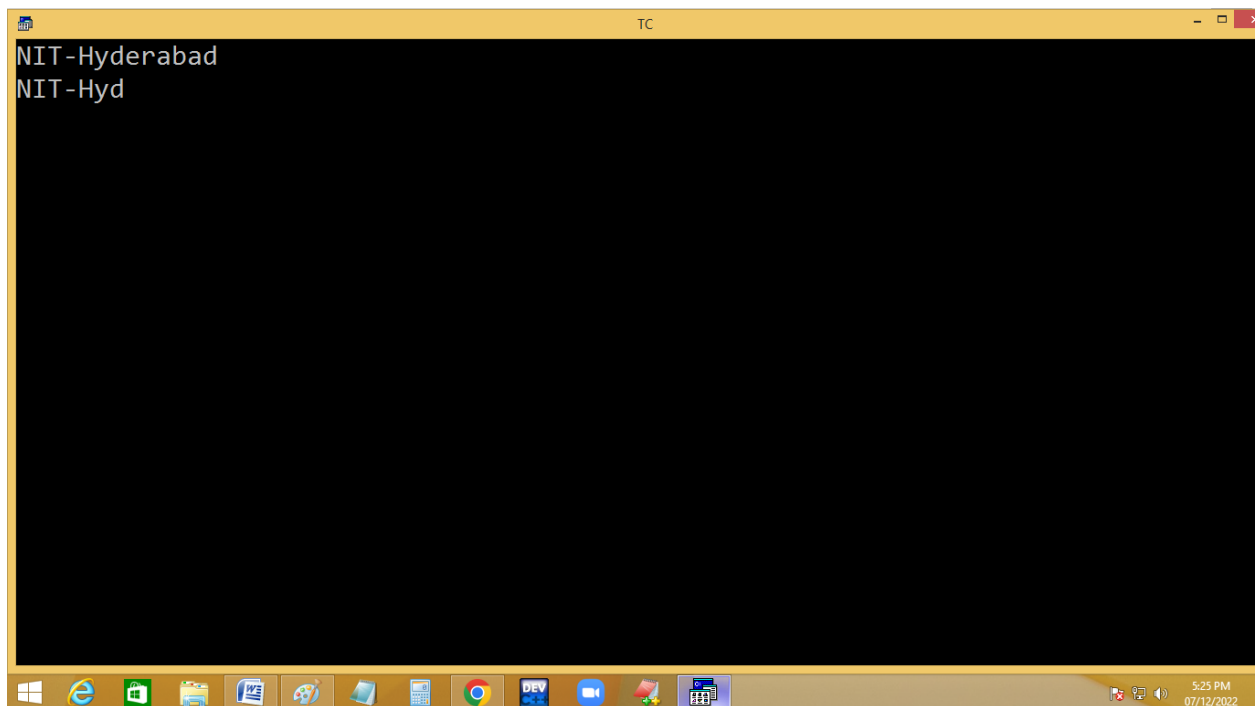
8. **strncat()**: It adds specified no of char to string2.

**Syntax:** char \* strncat(string1, string2, no of char);



The screenshot shows the Turbo C++ IDE with the following code in the editor:

```
Line 11   Col 8   Insert Indent Tab Fill Unindent * C:NONAME.C
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char s1[20]="NIT-",s2[20]="NIT-",s3[10]="Hyderabad";
clrscr();
strcat(s1,s3);
strncat(s2,s3,3);
puts(s1);
puts(s2);
getch();
}
```



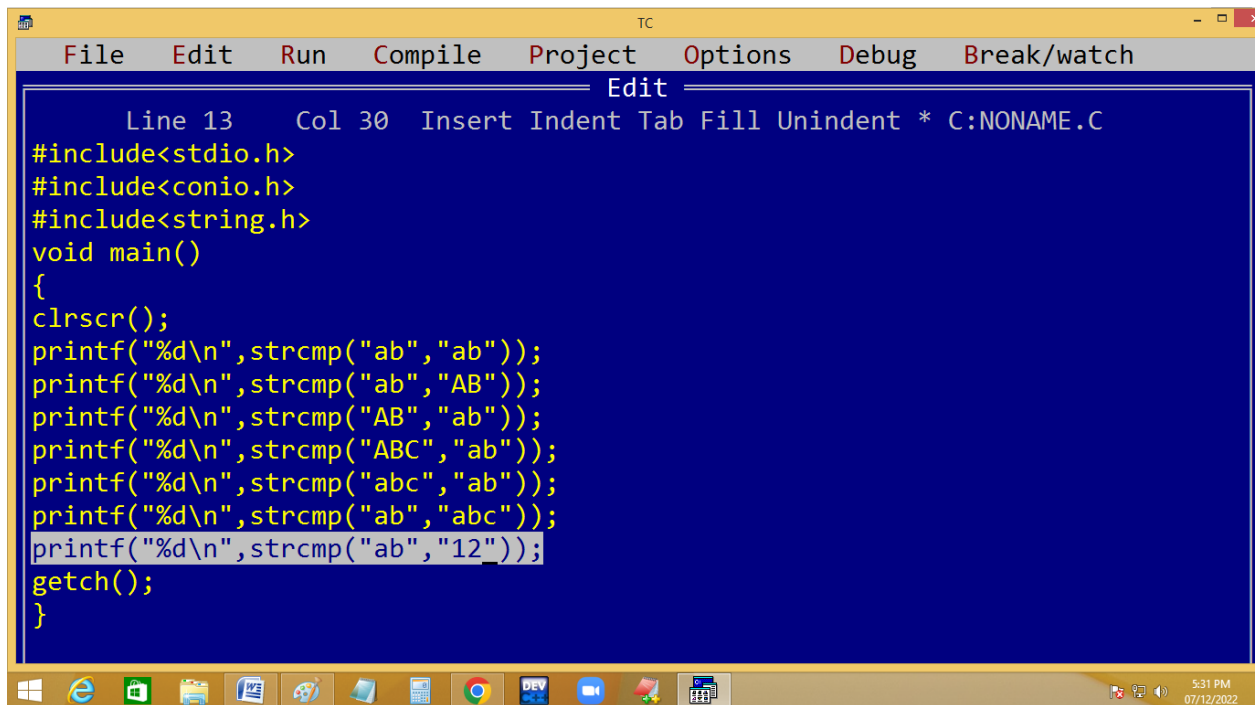
The screenshot shows the output of the program in the Turbo C++ IDE. The output is:

```
NIT-Hyderabad
NIT-Hyd
```

9. **strcmp()**: It compares two strings until finding the first ASCII difference. It returns the difference in integer format.

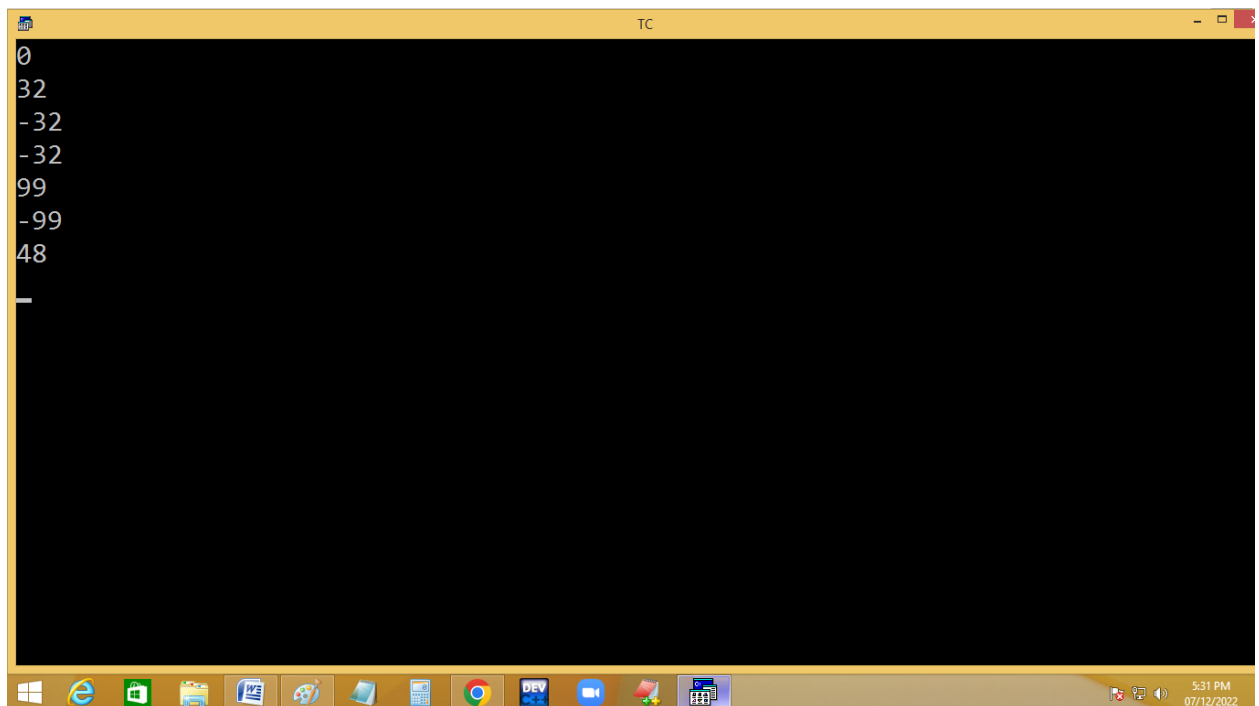
**Syntax:** `int strcmp(string1, string2);`





The screenshot shows the Turbo C++ IDE with a menu bar (File, Edit, Run, Compile, Project, Options, Debug, Break/watch) and a toolbar. The main window displays a C program in a blue editor. The code includes headers for stdio, conio, and string, and defines a main function. Inside main, clrscr() is called, followed by seven printf statements that use strcmp to compare different string pairs. The last line of the program is getch(). The status bar at the bottom shows the Windows taskbar with various icons and the system clock indicating 5:31 PM on 07/12/2022.

```
Line 13 Col 30 Insert Indent Tab Fill Unindent * C:NONAME.C
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
clrscr();
printf("%d\n",strcmp("ab","ab"));
printf("%d\n",strcmp("ab","AB"));
printf("%d\n",strcmp("AB","ab"));
printf("%d\n",strcmp("ABC","ab"));
printf("%d\n",strcmp("abc","ab"));
printf("%d\n",strcmp("ab","abc"));
printf("%d\n",strcmp("ab","12"));
getch();
}
```



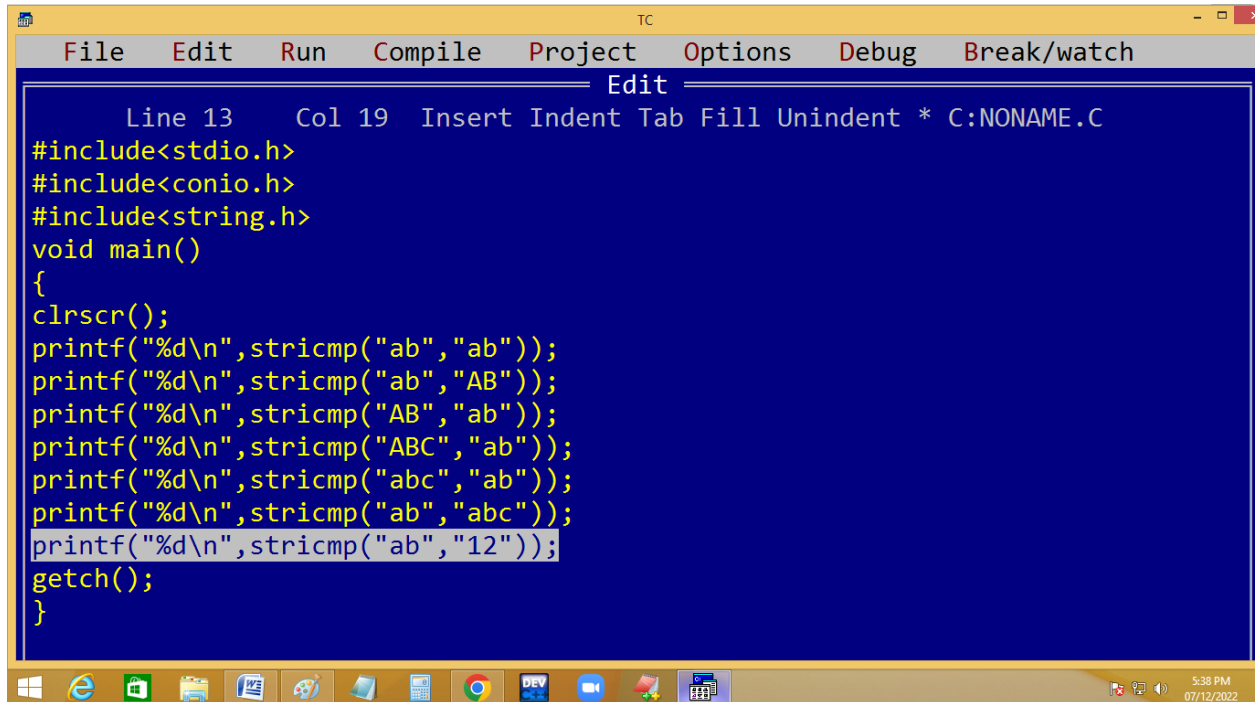
The screenshot shows the Turbo C++ IDE with the same menu bar and toolbar. The main window displays the output of the program in a black editor. The output consists of seven lines of integers: 0, 32, -32, -32, 99, -99, and 48, each followed by a horizontal line. The status bar at the bottom shows the Windows taskbar with various icons and the system clock indicating 5:31 PM on 07/12/2022.

```
0
32
-32
-32
99
-99
48
-
```

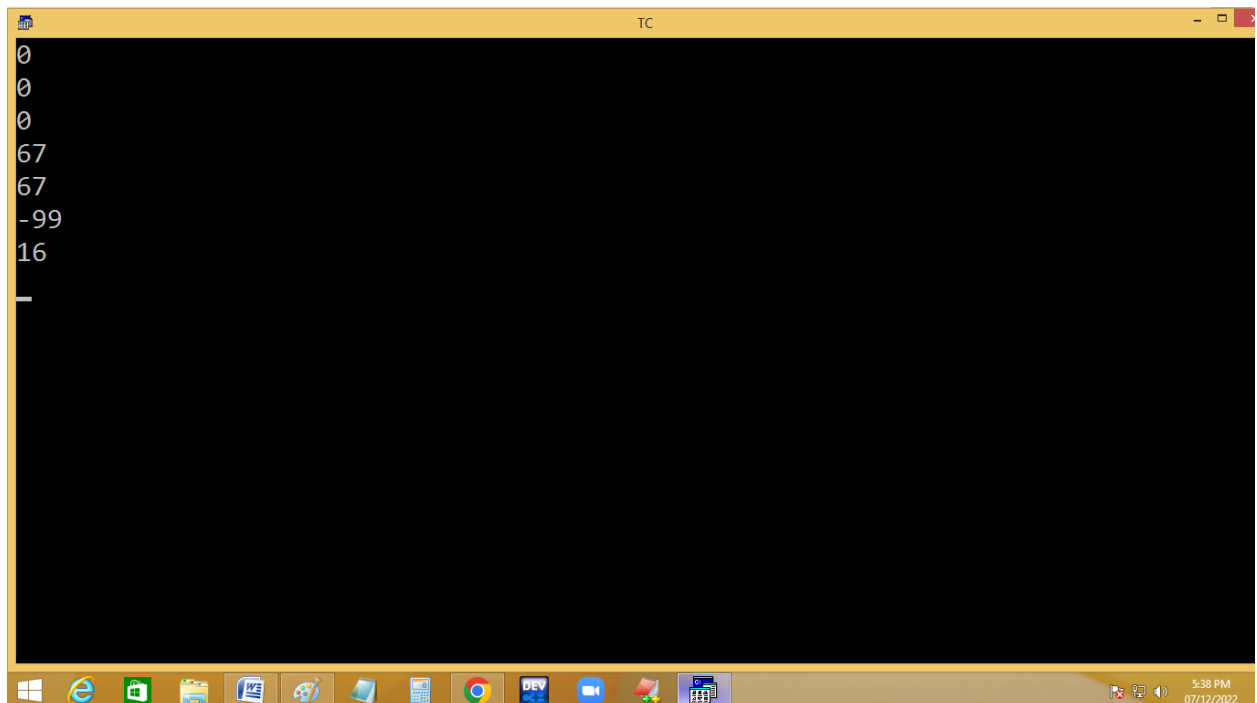
10. **stricmp()**: It compare two strings by ignoring case. i.e. lower and upper are same. When matching char or

different data type found in 2<sup>nd</sup> string, the first string char taken in upper case.

**Syntax:** int strcmp(string1, string2);



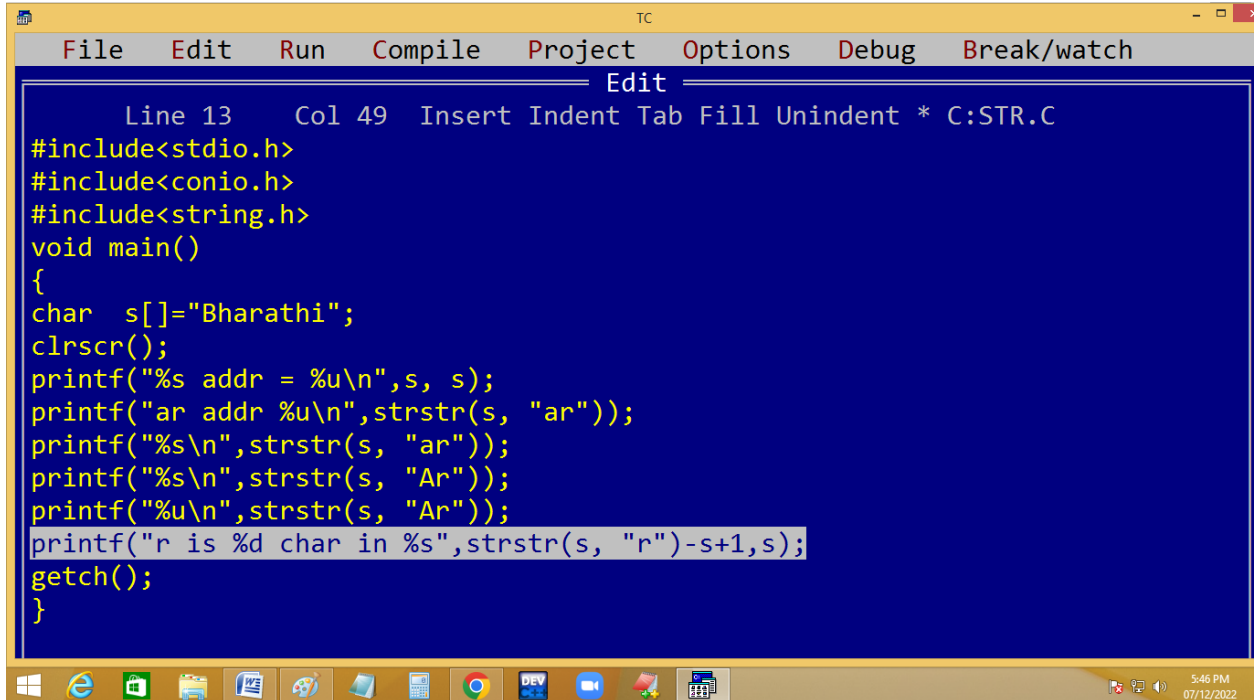
```
TC
File Edit Run Compile Project Options Debug Break/watch
Edit
Line 13 Col 19 Insert Indent Tab Fill Unindent * C:NONAME.C
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
clrscr();
printf("%d\n",strcmp("ab","ab"));
printf("%d\n",strcmp("ab","AB"));
printf("%d\n",strcmp("AB","ab"));
printf("%d\n",strcmp("ABC","ab"));
printf("%d\n",strcmp("abc","ab"));
printf("%d\n",strcmp("ab","abc"));
printf("%d\n",strcmp("ab","12"));
getch();
}
```



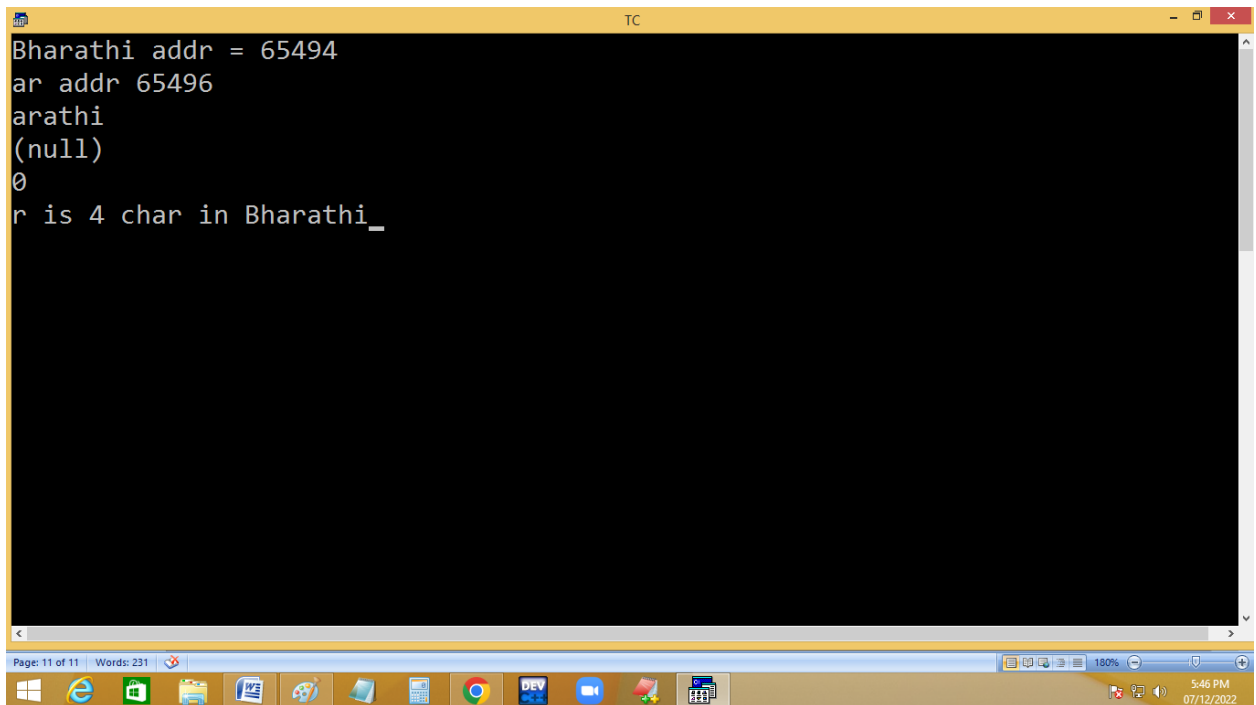
```
TC
0
0
0
67
67
-99
16
_
```

11. **strstr()**: It returns the address of substring in main string. If sub string not found it return 0 or (null).

**Syntax:** char \* strstr(main string, sub string);



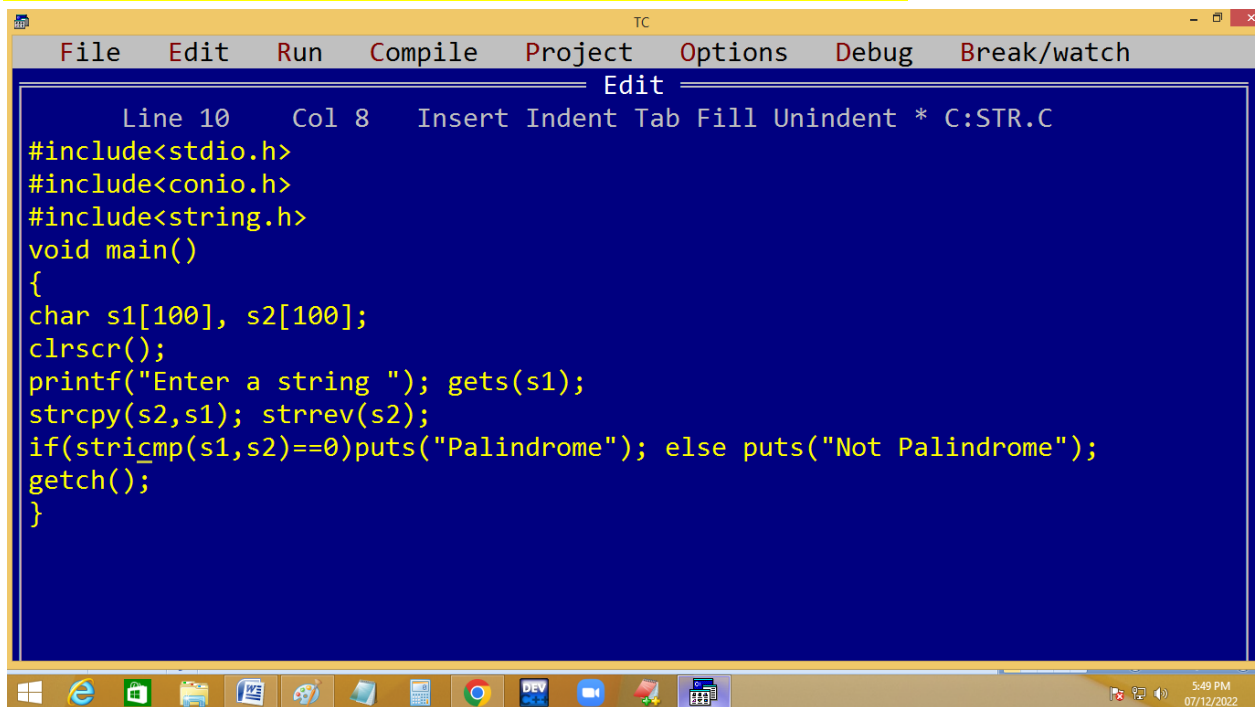
```
TC
File Edit Run Compile Project Options Debug Break/watch
Edit
Line 13 Col 49 Insert Indent Tab Fill Unindent * C:STR.C
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char s[]="Bharathi";
clrscr();
printf("%s addr = %u\n",s, s);
printf("ar addr %u\n",strstr(s, "ar"));
printf("%s\n",strstr(s, "ar"));
printf("%s\n",strstr(s, "Ar"));
printf("%u\n",strstr(s, "Ar"));
printf("r is %d char in %s",strstr(s, "r")-s+1,s);
getch();
}
```



```
TC
Bharathi addr = 65494
ar addr 65496
arathi
(null)
0
r is 4 char in Bharathi_
```

Page: 11 of 11 Words: 231 180% 5:46 PM 07/12/2022

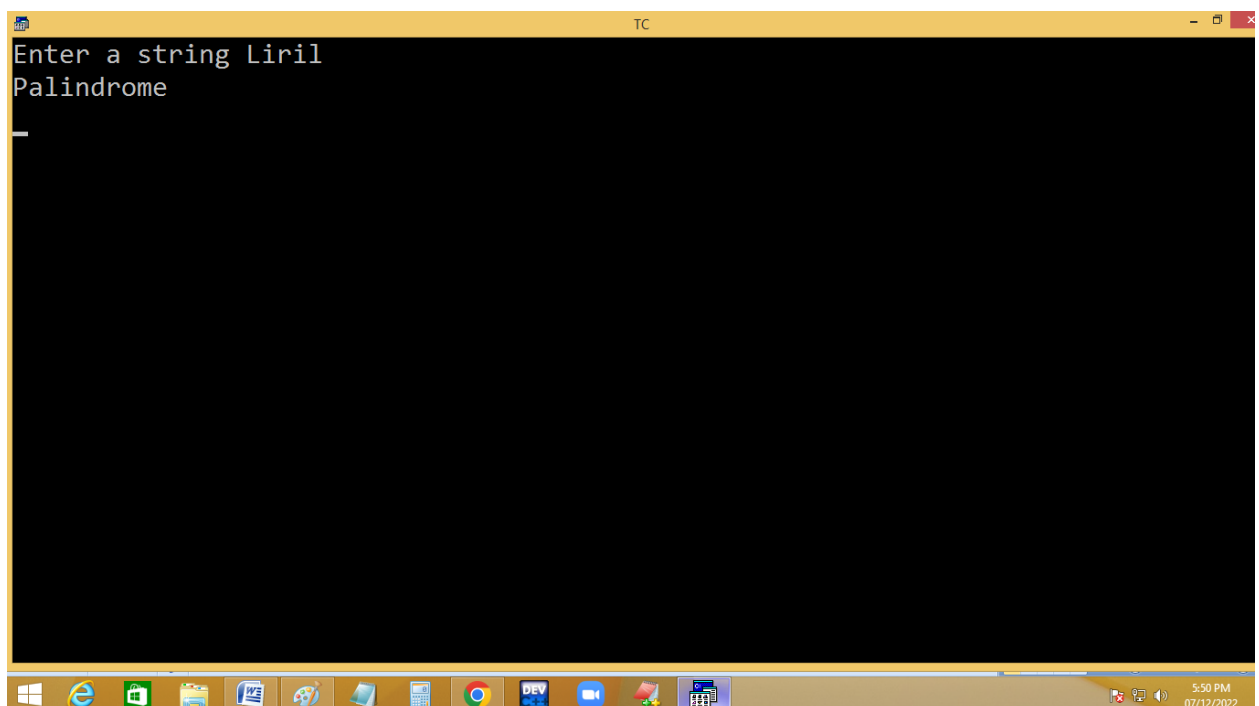
## Eg. Finding palindrome using library function.



The screenshot shows the Turbo C++ (TC) editor window. The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the top indicates 'Line 10 Col 8' and 'Insert Indent Tab Fill Unindent \* C:STR.C'. The code in the editor is as follows:

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char s1[100], s2[100];
clrscr();
printf("Enter a string "); gets(s1);
strcpy(s2,s1); strrev(s2);
if(stricmp(s1,s2)==0)puts("Palindrome"); else puts("Not Palindrome");
getch();
}
```

The Windows taskbar at the bottom shows various application icons and the system clock indicating 5:49 PM on 07/12/2022.



The screenshot shows the Turbo C++ (TC) editor window in its execution state. The prompt 'Enter a string' is displayed, and the user has entered 'Liril'. The program has executed, and the output 'Palindrome' is shown on the next line. The status bar at the top indicates 'Line 10 Col 8' and 'Insert Indent Tab Fill Unindent \* C:STR.C'. The Windows taskbar at the bottom shows various application icons and the system clock indicating 5:50 PM on 07/12/2022.