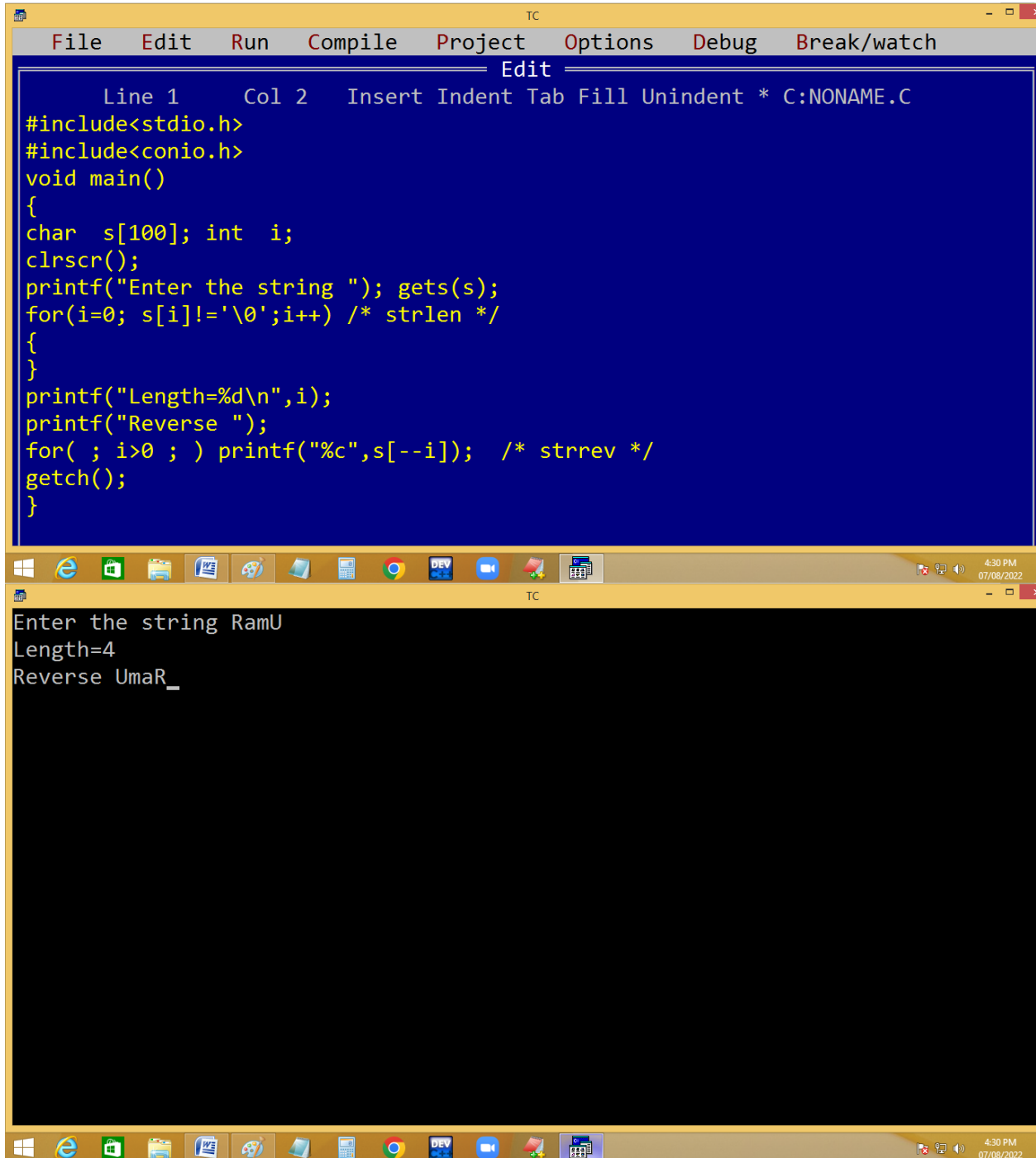


**Eg. finding string length and reverse string using a user defined program.**

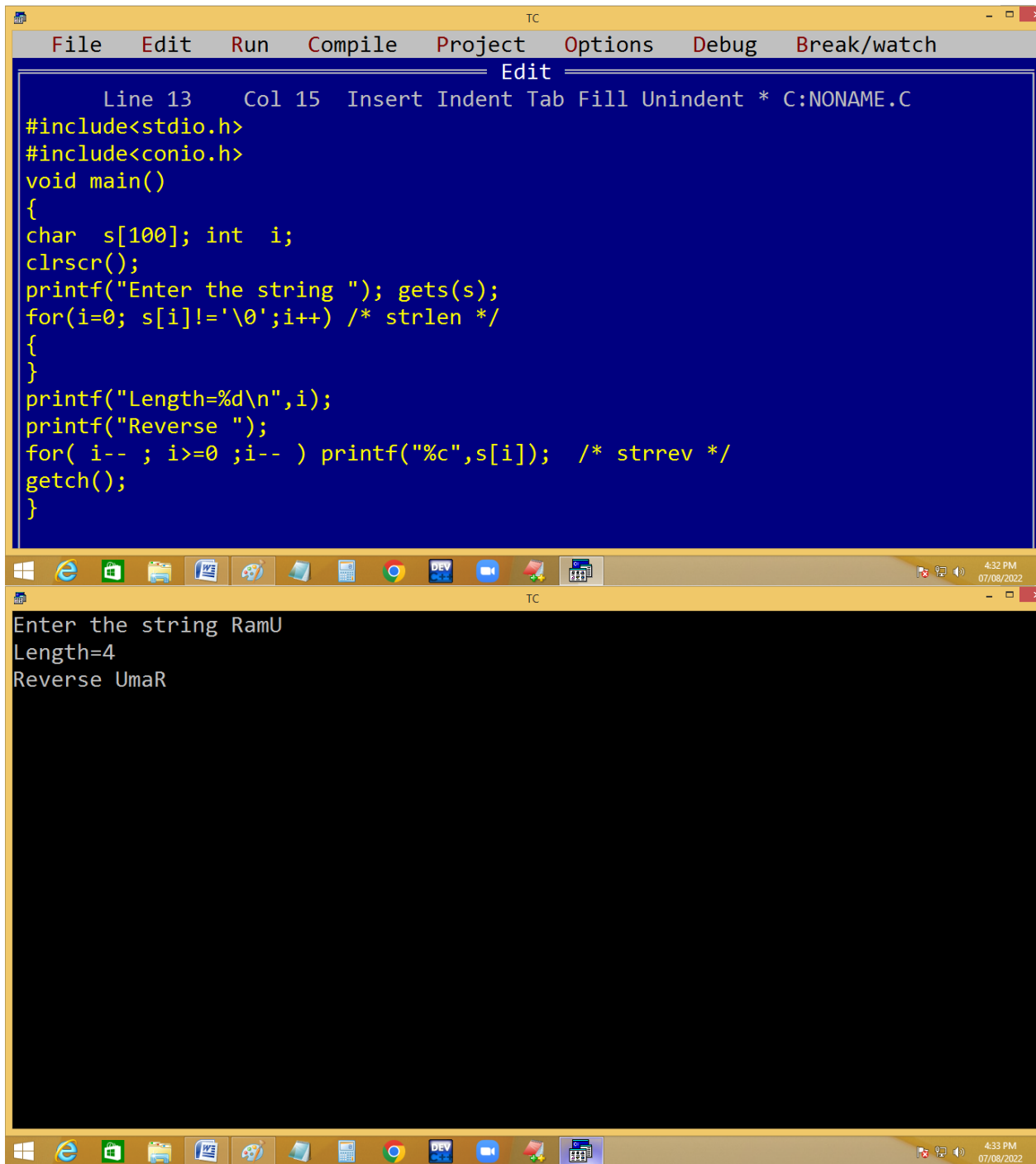


The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the 'Edit' window, displaying a C program. The program includes `<stdio.h>` and `<conio.h>`, and defines a `main()` function. Inside `main()`, a character array `s` of size 100 is declared, and `clrscr()` is called. The program prompts the user to 'Enter the string' and uses `gets(s)` to read the input. It then calculates the string length by iterating from `i=0` until `s[i] != '\0'`, storing the count in `i`. This is printed as 'Length=%d\n'. Next, it prints 'Reverse ' and then iterates from `i>0` down to 0, printing each character `s[--i]` to reverse the string. The program ends with `getch()`.

The bottom window is the 'Output' window, showing the execution results. It displays the prompt 'Enter the string', the user input 'RamU', the calculated 'Length=4', and the reversed string 'Reverse UmaR\_'. The Windows taskbar at the bottom shows the time as 4:30 PM on 07/08/2022.

```
Line 1      Col 2      Insert Indent Tab Fill Unindent * C:NONAME.C
#include<stdio.h>
#include<conio.h>
void main()
{
char  s[100]; int  i;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i]!='\0';i++) /* strlen */
{
}
printf("Length=%d\n",i);
printf("Reverse ");
for( ; i>0 ; ) printf("%c",s[--i]); /* strrev */
getch();
}
```

Enter the string RamU  
Length=4  
Reverse UmaR\_



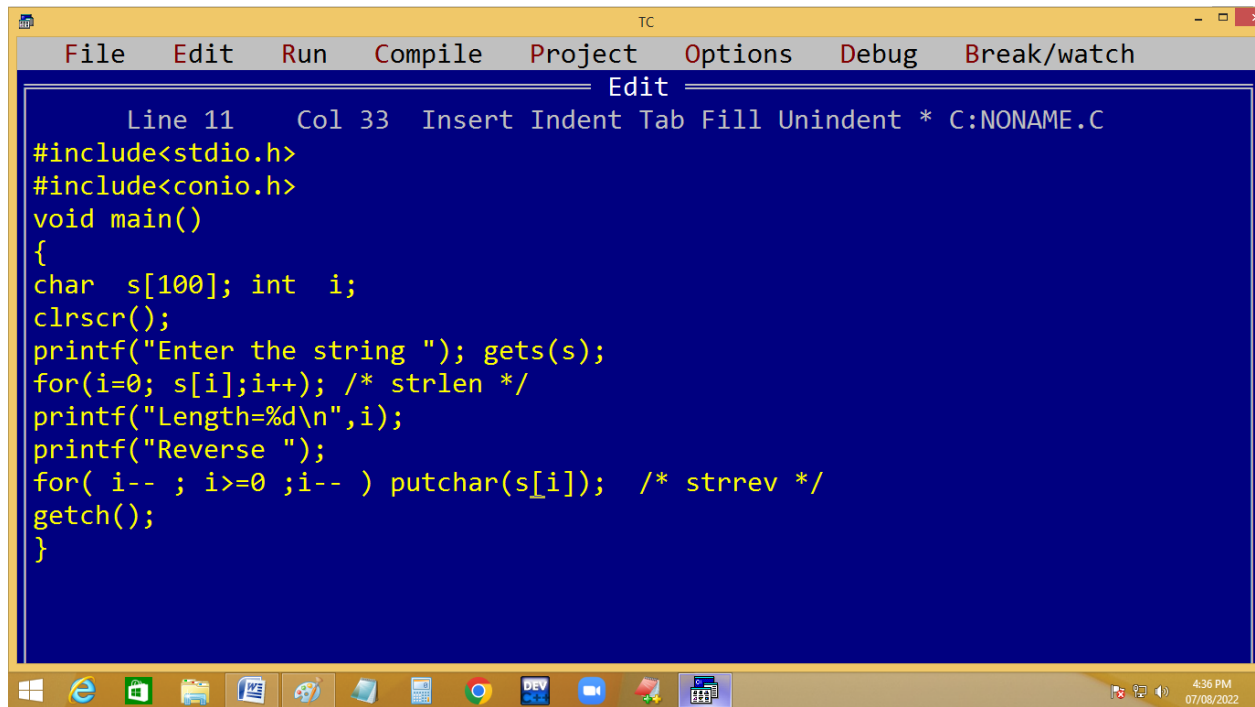
The image displays two windows from the Turbo C++ (TC) IDE. The top window, titled 'Edit', shows the source code for a C program named 'C:NONAME.C'. The code is as follows:

```
Line 13   Col 15   Insert Indent Tab Fill Unindent * C:NONAME.C
#include<stdio.h>
#include<conio.h>
void main()
{
char  s[100]; int  i;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i]!='\0';i++) /* strlen */
{
}
printf("Length=%d\n",i);
printf("Reverse ");
for( i-- ; i>=0 ;i-- ) printf("%c",s[i]); /* strrev */
getch();
}
```

The bottom window, titled 'TC', shows the output of the program. It displays the prompts and the user's input:

```
Enter the string RamU
Length=4
Reverse UmaR
```

The Windows taskbar at the bottom of the screen shows the time as 4:32 PM on 07/08/2022 in the top window and 4:33 PM on 07/08/2022 in the bottom window.



The image shows a screenshot of the Turbo C++ (TC) IDE. The window title is "TC". The menu bar includes "File", "Edit", "Run", "Compile", "Project", "Options", "Debug", and "Break/watch". The "Edit" menu is currently open, showing options: "Line 11", "Col 33", "Insert", "Indent", "Tab", "Fill", "Unindent", and "\* C:NONAME.C". The main editing area has a blue background and contains the following C code:

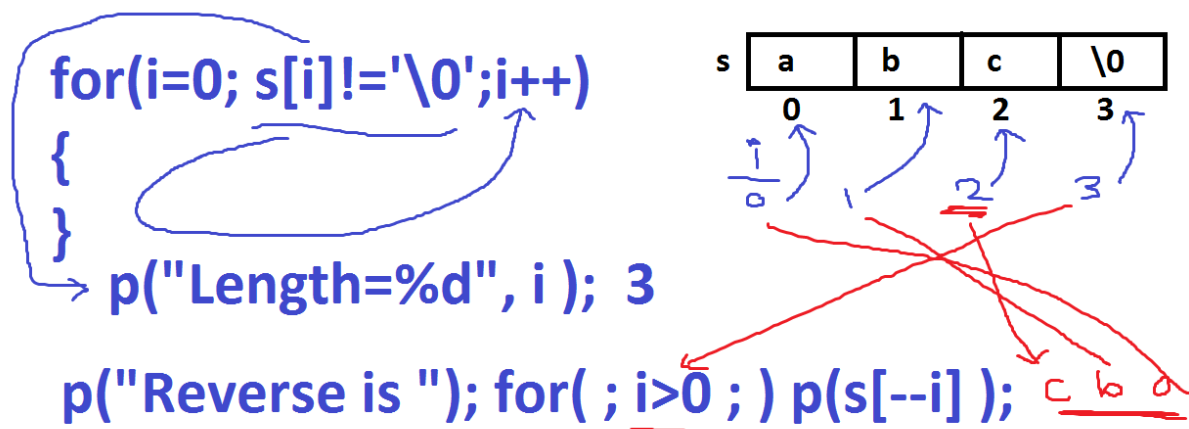
```
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int i;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i];i++); /* strlen */
printf("Length=%d\n",i);
printf("Reverse ");
for( i-- ; i>=0 ;i-- ) putchar(s[i]); /* strrev */
getch();
}
```

The Windows taskbar is visible at the bottom, showing icons for various applications including Internet Explorer, Word, and a calculator. The system clock in the bottom right corner displays "4:36 PM" and "07/08/2022".

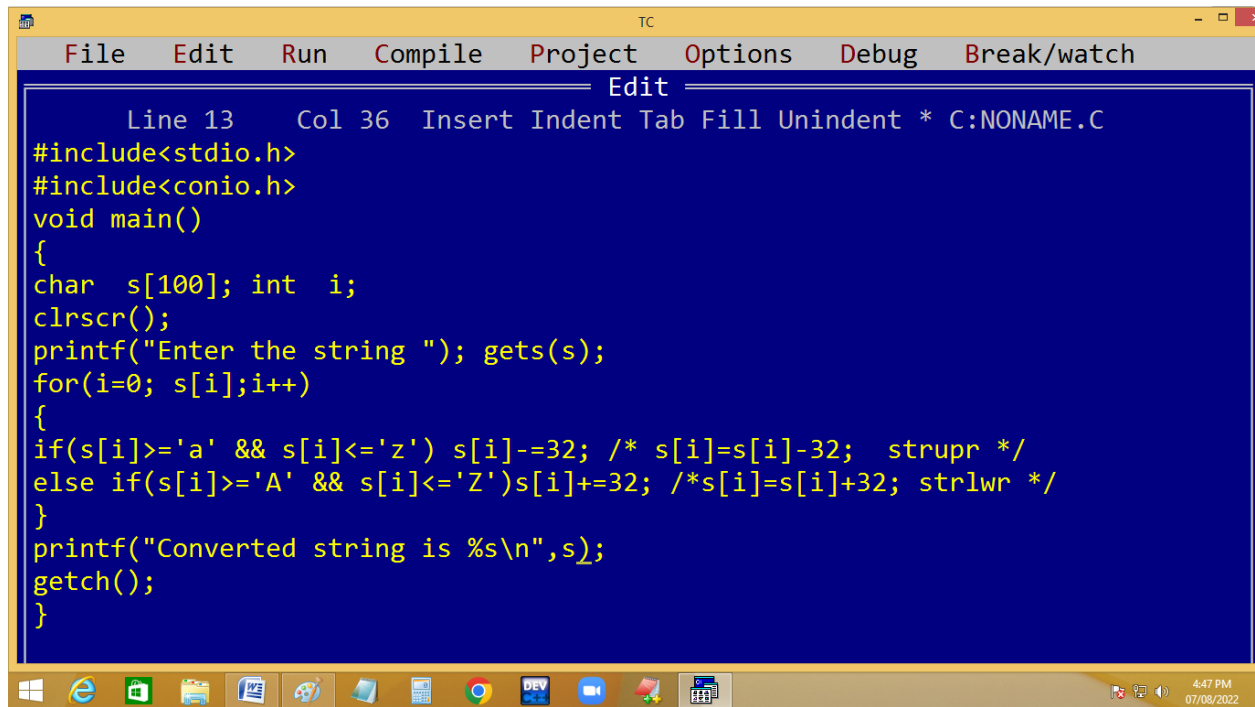
```
TC
Enter the string vimal
Length=5
Reverse lamiv_
```

```
TC
Enter the string madam
Length=5
Reverse madam
```

```
TC
Enter the string ram dev
Length=7
Reverse ved mar_
```



**Eg. lower to upper / upper to lower:**

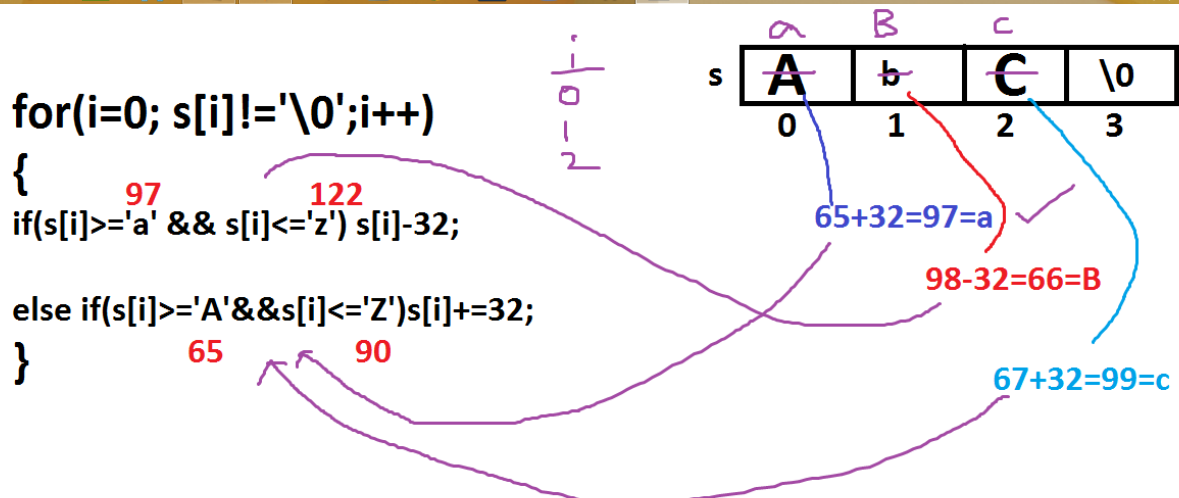


The image shows a screenshot of a Turbo C++ (TC) IDE window. The title bar at the top reads "TC". Below it is a menu bar with the following options: File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The main editing area has a blue background and displays the following C code:

```
Line 13    Col 36    Insert Indent Tab Fill Unindent * C:NONAME.C
#include<stdio.h>
#include<conio.h>
void main()
{
char  s[100]; int  i;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i];i++)
{
if(s[i]>='a' && s[i]<='z') s[i]-=32; /* s[i]=s[i]-32;  strupr */
else if(s[i]>='A' && s[i]<='Z')s[i]+=32; /*s[i]=s[i]+32;  strlwr */
}
printf("Converted string is %s\n",s);
getch();
}
```

At the bottom of the window is a Windows taskbar. It contains several icons: the Start button, Internet Explorer, Microsoft Word, a folder icon, a document icon, a calculator, Google Chrome, a Dev C++ icon, a messaging icon, a file explorer icon, and a printer icon. On the right side of the taskbar, the system clock shows "4:47 PM" and the date "07/08/2022".

```
TC
Enter the string James Bond-007
Converted string is jAMES bOND-007
```



Eg. Finding the no of vowels, consonants, digits, spaces and special characters, in given string.

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

```
#include<conio.h>
```

```
#include<ctype.h>

void main()

{

char s[100]; int i, v,c,d,spa,spe;

clrscr();

v=c=d=spa=spe=0;

printf("Enter the string "); gets(s);

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

{

s[i]=tolower(s[i]);

if(s[i]>='0'&& s[i]<='9')d++;

else if(s[i]==' ')spa++;

else if(s[i]>='a' && s[i]<='z')

{
```



```
if(s[i]=='a' || s[i]=='e' || s[i]=='i' || s[i]=='o' || s[i]=='u')
    v++;

else c++;

}

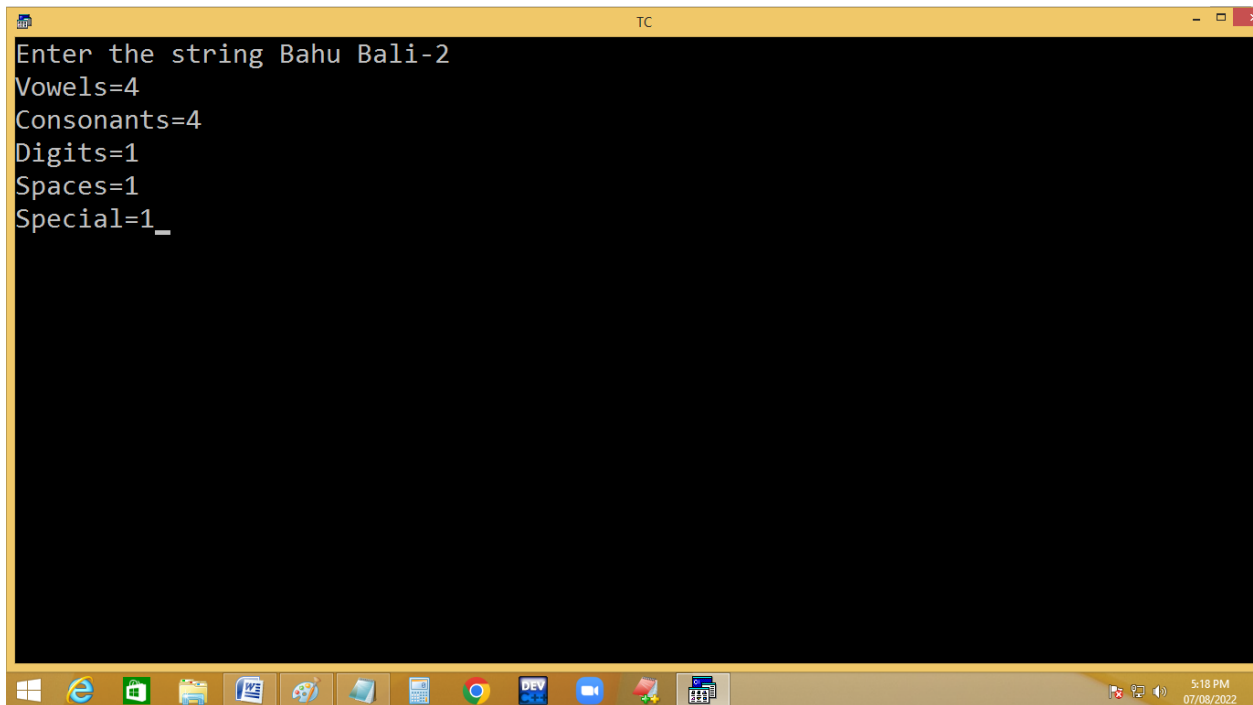
else spe++;

}

printf("Vowels=%d\nConsonants=%d\nDigits=%d\nSpaces=%d\nSpecial=%d",
    v,c,d,spa,spe);

getch();

}
```



```
Enter the string Bahu Bali-2
Vowels=4
Consonants=4
Digits=1
Spaces=1
Special=1_
```

**Without using tolower():**

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

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
char s[100]; int i, v,c,d,spa,spe;
```

```
clrscr();
```

```
v=c=d=spa=spe=0;
```

```
printf("Enter the string "); gets(s);
```

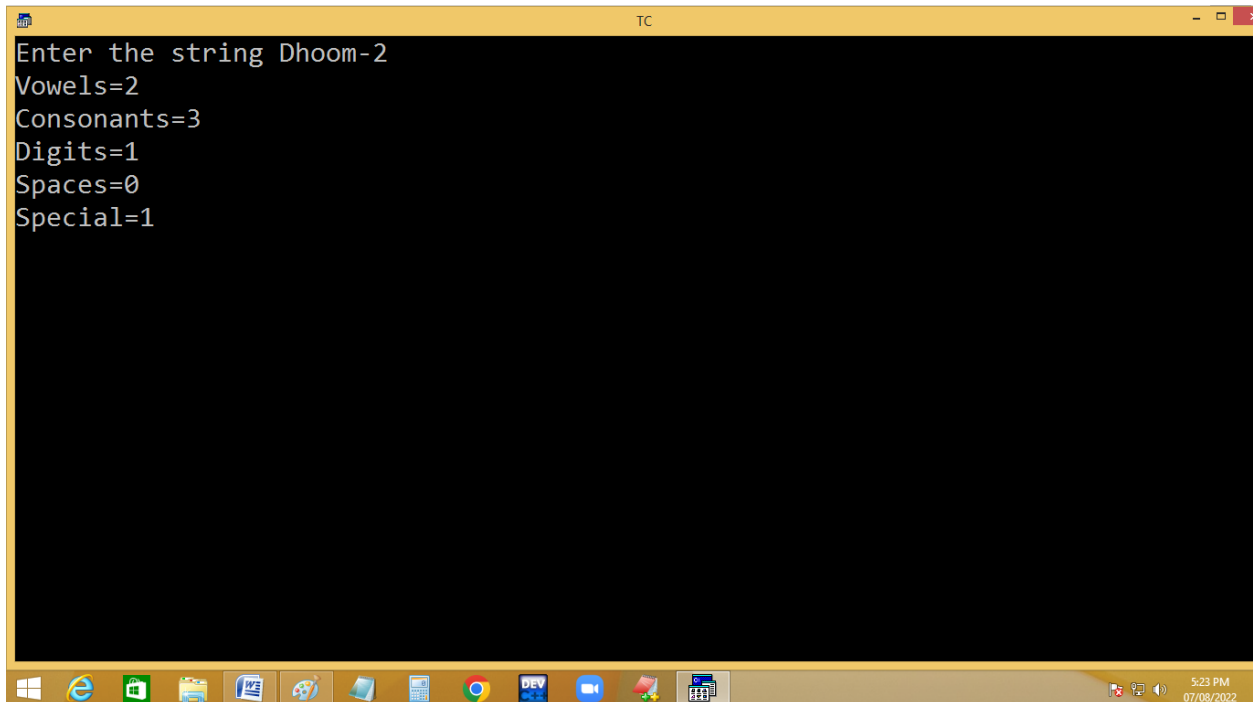
```
for(i=0; s[i];i++)
{
    if(s[i]>='A' && s[i]<='Z')s[i]+=32;
    if(s[i]>='0'&&s[i]<='9')d++;
    else if(s[i]==' ')spa++;
    else if(s[i]>='a' &&s[i]<='z')
    {
        if(s[i]=='a' || s[i]=='e' || s[i]=='i' || s[i]=='o' || s[i]=='u')
            v++;
        else c++;
    }
    else spe++;
}

printf("Vowels=%d\nConsonants=%d\nDigits=%d\nSpaces=%d\nSpecial=%d",
```

```
v,c,d,spa,spe);
```

```
getch();
```

```
}
```



```
Enter the string Dhoom-2
Vowels=2
Consonants=3
Digits=1
Spaces=0
Special=1
```

**Eg. encrypting data.**

**Read a string and replace all the lower case char /  
upper case / digits / spaces / special char with \$ / #  
/ \* / & / @**

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 5 Col 23 Insert Indent Tab Fill Unindent C:V0.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int i; clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i];i++)
{
if(s[i]>='A' && s[i]<='Z')s[i]='#';
else if(s[i]>='a'&&s[i]<='z')s[i]='$';
else if(s[i]==' ')s[i]='&';
else if(s[i]>='0' &&s[i]<='9')s[i]='*';
else s[i]='@';
}
printf("Converted string is %s",s);
getch();
}
```

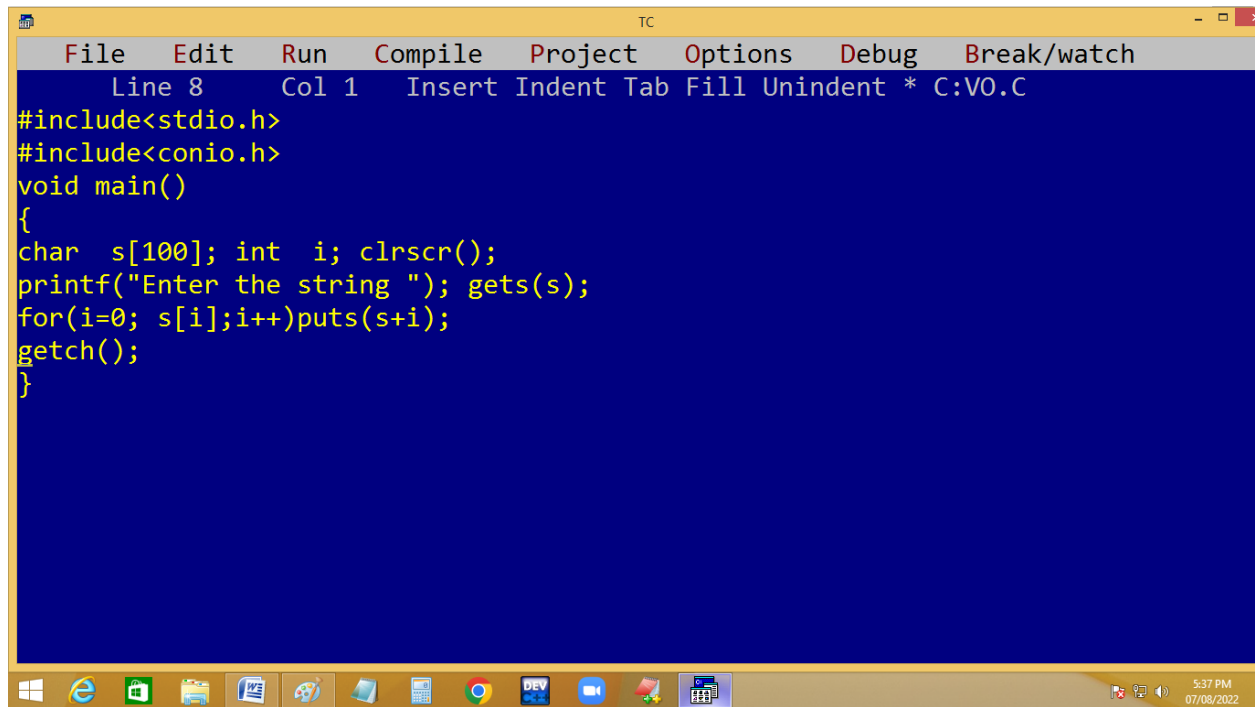
```
TC
Enter the string Naresh IT Hyd-500016
Converted string is #$$$$$&&##&$$@*****
```

**Eg. printing string as follows → Abc**

**Abc**

**bc**

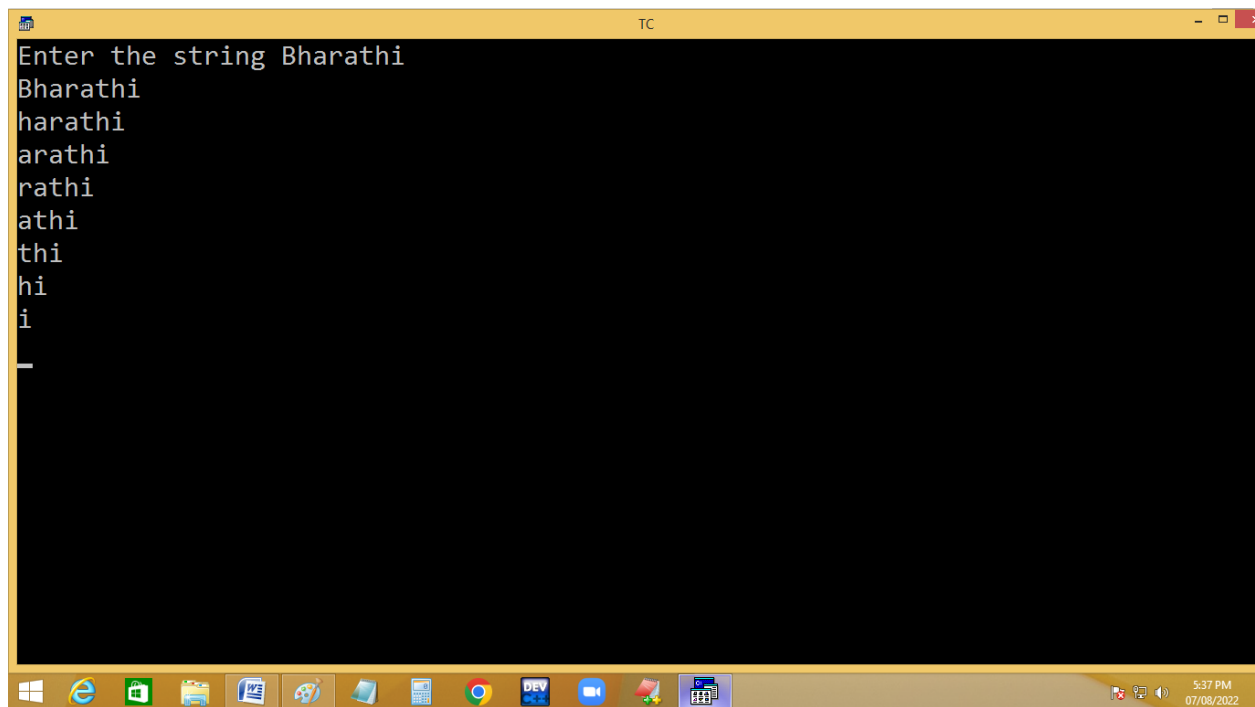
**c**



The screenshot shows the Turbo C++ (TC) IDE with a yellow title bar and menu bar. The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the bottom indicates Line 8, Col 1, and the file path C:\V0.C. The main editing area has a blue background and contains the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int i; clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i];i++)puts(s+i);
getch();
}
```

The Windows taskbar at the bottom shows various application icons and the system clock displaying 5:37 PM on 07/08/2022.

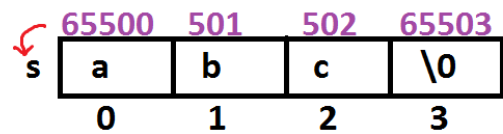


The screenshot shows the Turbo C++ (TC) IDE with a yellow title bar. The main editing area has a black background and displays the output of the program's execution:

```
Enter the string Bharathi
Bharathi
harathi
arathi
rathi
athi
thi
hi
i
_
```

The Windows taskbar at the bottom is identical to the first screenshot, showing the same application icons and system clock.

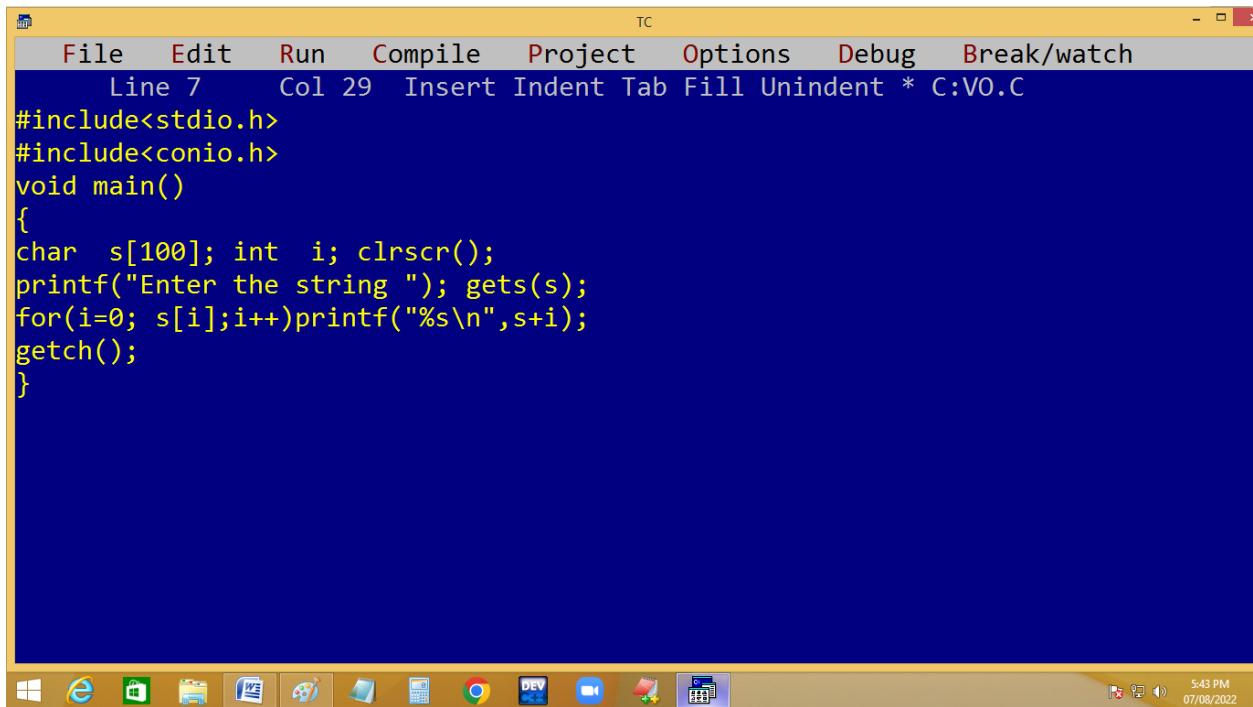
```
TC
Enter the string Abc
Abc
bc
c
_
```



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

↓  
65500+0\*1=65500 to \0 ==> abc  
65500+1\*1=65501 to \0 ==> bc  
65500+2\*1=65502 to \0 ==> c

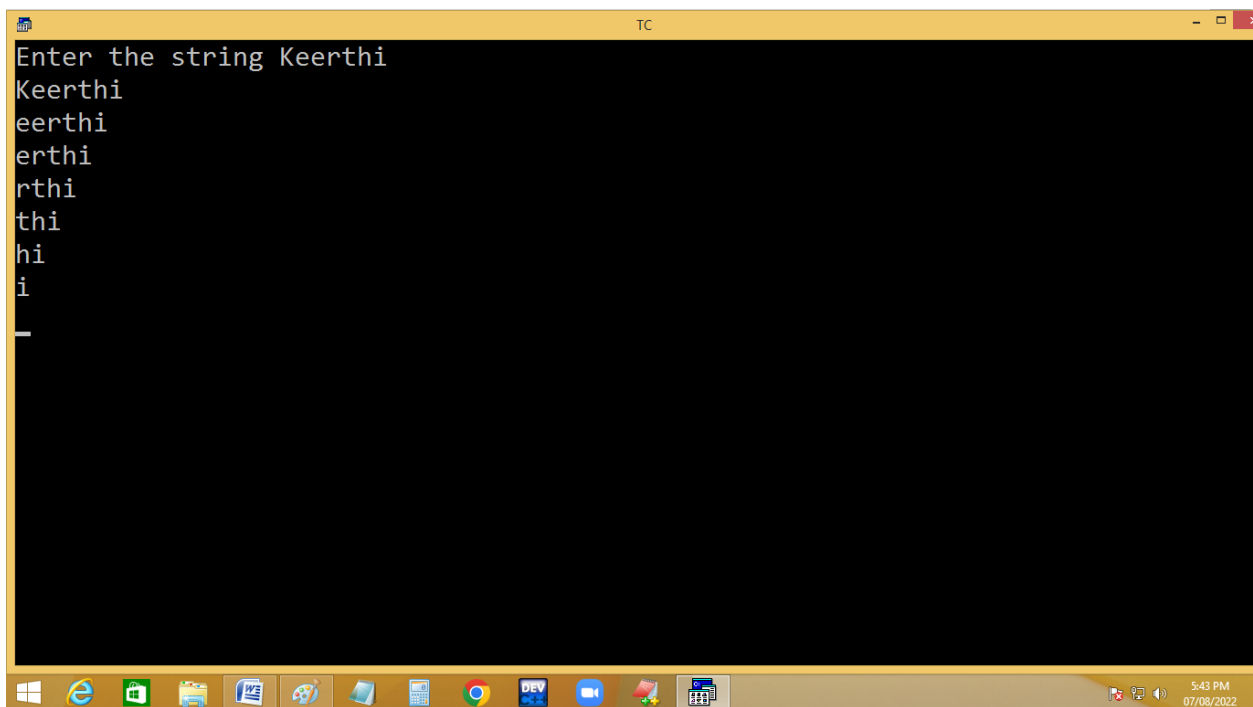




The screenshot shows the Turbo C++ (TC) IDE with a blue background. The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the top indicates 'Line 7 Col 29 Insert Indent Tab Fill Unindent \* C:\V0.C'. The code in the editor is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int i; clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i];i++)printf("%s\n",s+i);
getch();
}
```

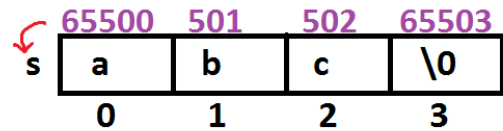
The Windows taskbar at the bottom shows various icons including the Start button, Internet Explorer, Word, Excel, and several utility programs. The system clock in the bottom right corner displays '5:43 PM 07/08/2022'.



This screenshot shows the same Turbo C++ IDE with a black background, displaying the output of the program. The text 'Enter the string Keerthi' is on the first line. Subsequent lines show the string 'Keerthi' being printed character by character, with each character followed by a newline character, resulting in the following output:

```
Keerthi
eerthi
erthi
rthi
thi
hi
i
_
```

The Windows taskbar at the bottom is identical to the first screenshot, showing the same icons and system clock.



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

↓  
65500+0\*1=65500 to \0 ==> abc  
65500+1\*1=65501 to \0 ==> bc  
65500+2\*1=65502 to \0 ==> c

**Home work:**

I miss you jaanu → 4

I am proud to be Indian → 6

