

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program that reverses a string. The code includes `<stdio.h>` and `<conio.h>`, defines `main()`, declares a character array `s` of size 100 and an integer `i`, clears the screen with `clrscr()`, prompts the user to enter a string, reads it using `scanf`, and then prints the reversed string using a loop and `puts`. The bottom window shows the program's execution, where the input "avinash" is entered, and the output shows the string being printed character by character in reverse order: "a", "v", "i", "n", "a", "v", "i", "n", "a", "s".

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 1 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int i;
clrscr();
printf("Enter a string "); scanf("%s",s);
for(i=0;s[i]!='\0';i++)
{
}
for( ; i>0 ; i--, s[i]='\0')puts(s);
getch();
}
```

TC

Enter a string avinash
avinash
avinas
avina
avin
avi
av
a

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

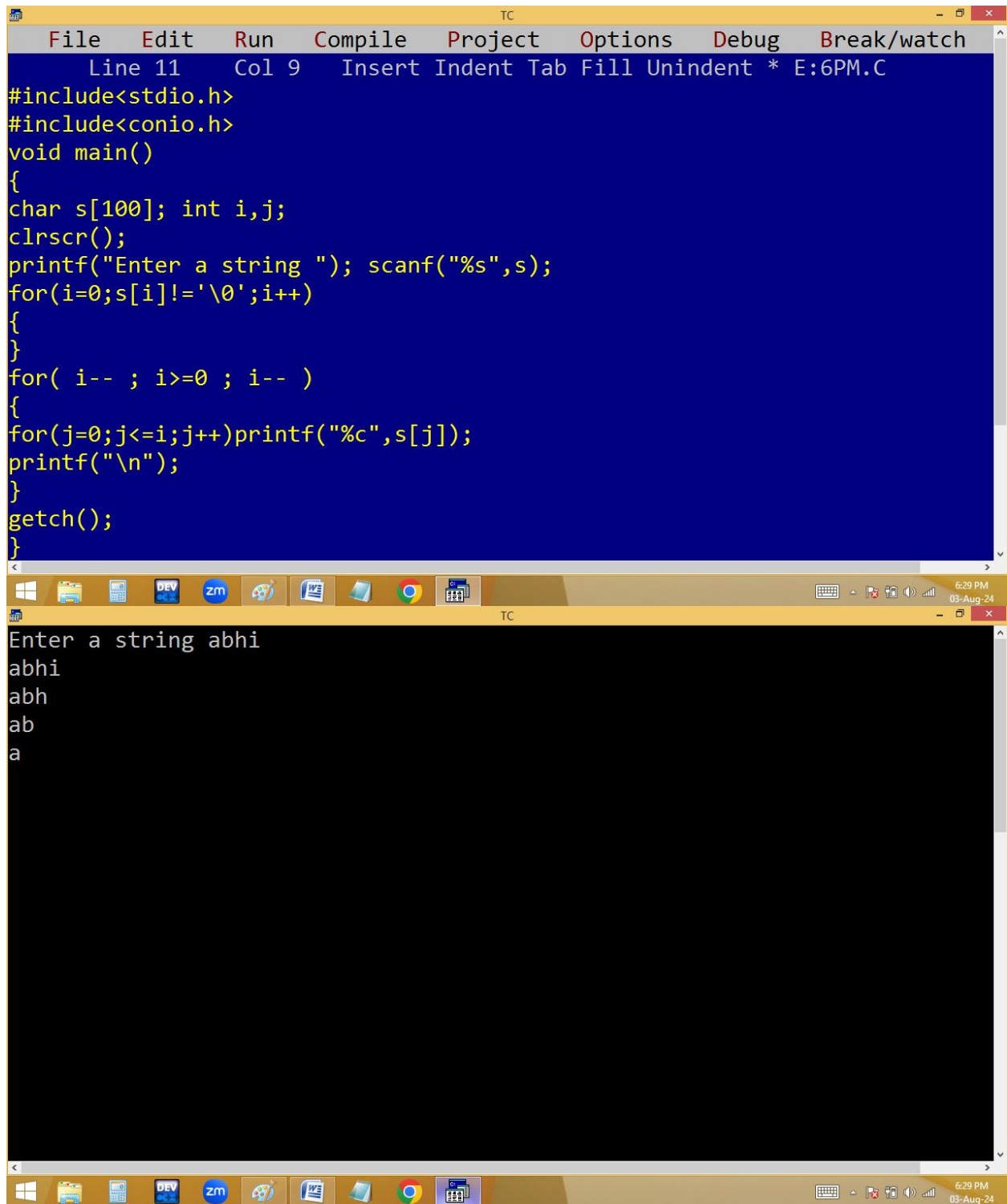
$\frac{a}{0}$ 1 2 3 4

	65500	501	2	3	504
s	a	\0b	\0c	\0d	\0
	0	1	2	3	4

```
for( ; i>0 ; i--, s[i]!='\0') puts(s);
```

$\frac{a}{0}$
 0 to 4 → a b c d
 0 to 3 → a b c
 0 to 2 → a b
 0 to 1 → a
 0

Method2:



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 9 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int i,j;
clrscr();
printf("Enter a string "); scanf("%s",s);
for(i=0;s[i]!='\0';i++)
{
}
for( i-- ; i>=0 ; i-- )
{
for(j=0;j<=i;j++)printf("%c",s[j]);
printf("\n");
}
getch();
}
```

Enter a string abhi
abhi
abh
ab
a

TC

```

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

```

$\frac{i}{0 \ 1 \ 2 \ 3 \ 4}$

	65500	501	2	3	504
s	a	\b	\c	\d	\0
	0	1	2	3	4

```

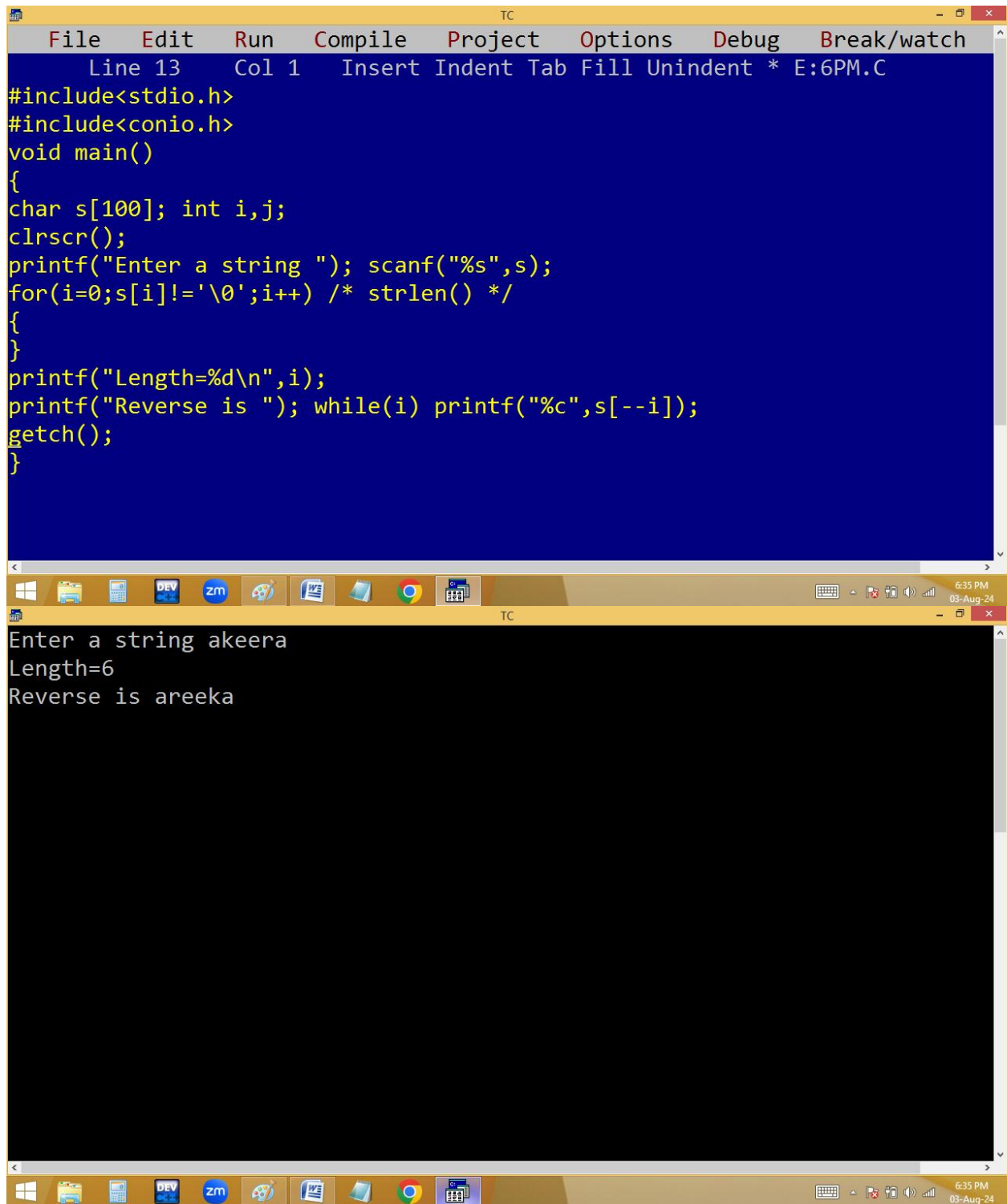
for ( ; i>=0; i-- )
{
for ( j=0; j<=i;j++) p("%c",s[ j ]);
p("\n");
}

```

$j = \frac{i}{0 \ 1 \ 2 \ 3 \ 4}$

$0 \text{ to } 4 \rightarrow a \ b \ c \ d$
 $0 \text{ to } 3 \rightarrow a \ b \ c$
 $0 \text{ to } 2 \rightarrow a \ b$
 $0 \text{ to } 1 \rightarrow a$
 0

Finding string length and reverse string using user defined program:



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program that reverses a string. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. Inside `main`, a character array `s` of size 100 is declared, and variables `i` and `j` are initialized. The screen is cleared using `clrscr()`. A prompt "Enter a string " is shown, and the user input "akeera" is stored in `s`. A `for` loop calculates the length of the string by iterating until the null terminator is reached. The length (6) is printed. Then, the string is reversed by printing characters from the end of the array (`s[--i]`) until the start. Finally, `getch()` is used to pause the program.

```
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 1 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int i,j;
clrscr();
printf("Enter a string "); scanf("%s",s);
for(i=0;s[i]!='\0';i++) /* strlen() */
{
}
printf("Length=%d\n",i);
printf("Reverse is "); while(i) printf("%c",s[--i]);
getch();
}
```

The bottom window shows the program's execution output. It displays the prompt "Enter a string", the user input "akeera", the calculated "Length=6", and the reversed string "Reverse is areeka".

```
Enter a string akeera
Length=6
Reverse is areeka
```

```

Enter a string kishore  naidu
Length=7
Reverse is erohsik

```

```

for(i=0;s[i]!='\0';i++)
{
    strlen()
}

p("Length=%d\n",i);

while(i) p("%c",s[--i]); strrev()

```

$$\begin{array}{c} \frac{0}{a} \quad \frac{1}{b} \quad \frac{2}{c} \quad \frac{3}{d} \quad \frac{4}{\backslash 0} \end{array}$$

65500	501	2	3	504
a	b	c	d	\0
0	1	2	3	4

$$\begin{array}{cccc} \frac{3}{d} & \frac{2}{c} & \frac{1}{b} & \frac{0}{a} \end{array}$$

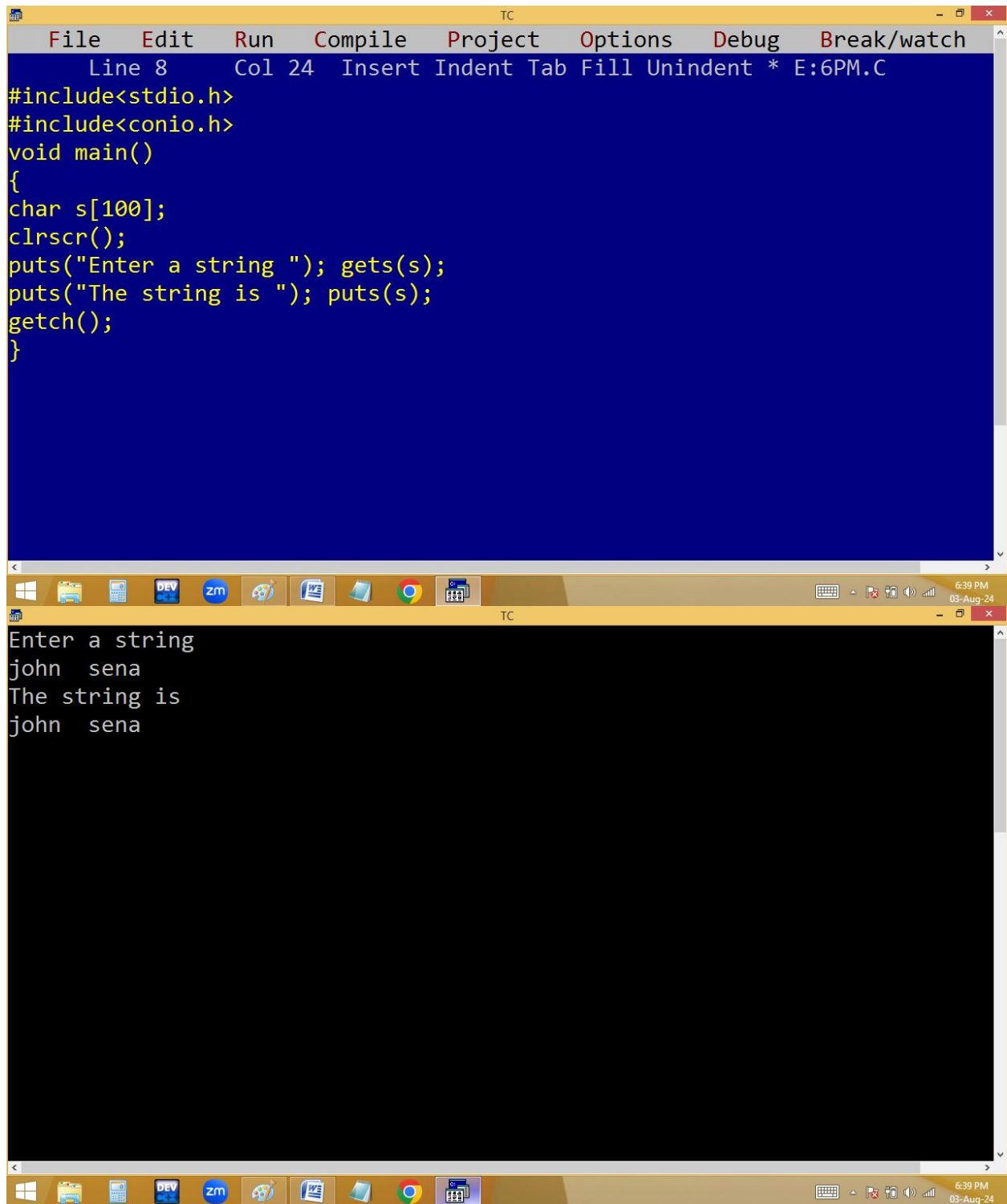
Scan set / magic characters:

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays a C program designed to reverse a string. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. Inside `main`, a character array `s` of size 100 is declared, and variables `i` and `j` are initialized. The screen is cleared using `clrscr()`. A prompt "Enter a string " is shown, and the user input "jack and jones" is captured using `gets(s)`. A `for` loop iterates from `i=0` to the end of the string (determined by `strlen()`), incrementing `i` by 1 in each iteration. After the loop, the string length is printed as "Length=14". Then, the string is reversed by printing characters from the end of the array `s` back to the beginning, using `while(i) printf("%c",s[--i]);`. Finally, `getch()` is used to pause the program before exiting.

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 12 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int i,j;
clrscr();
printf("Enter a string "); gets(s);
for(i=0;s[i]!='\0';i++) /* strlen() */
{
}
printf("Length=%d\n",i);
printf("Reverse is "); while(i) printf("%c",s[--i]);
getch();
}
```

The bottom window shows the execution output of the program. It displays the prompt "Enter a string" followed by the user input "jack and jones". The output then shows "Length=14" and "Reverse is senoJ dna kcaJ_", where the original string has been reversed and the first letter of each word is capitalized.

```
Enter a string jack and jones
Length=14
Reverse is senoJ dna kcaJ_
```



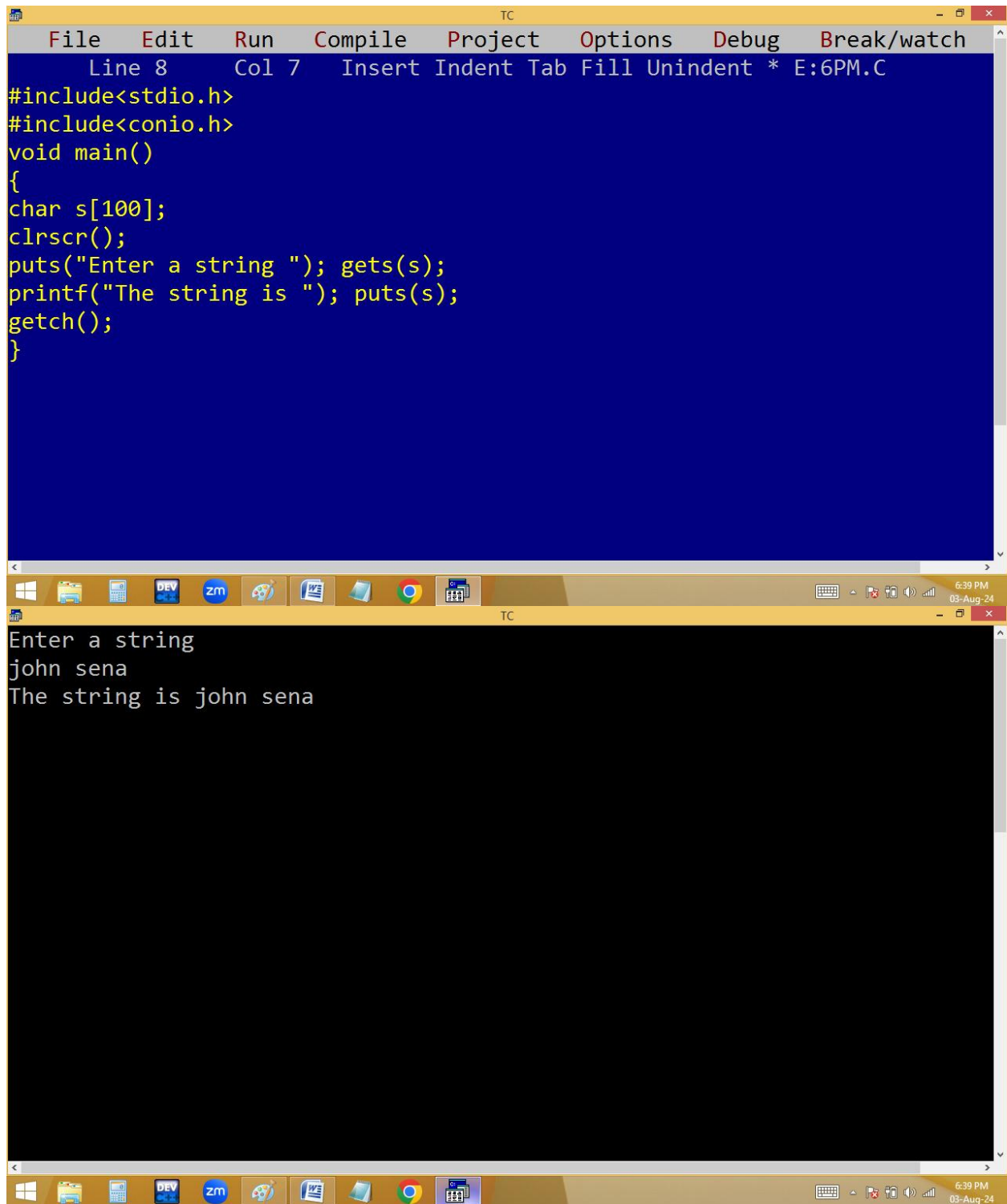
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the source code editor, which has a blue background and displays the following C code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 24 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100];
clrscr();
puts("Enter a string "); gets(s);
puts("The string is "); puts(s);
getch();
}
```

The bottom window is the output console, which has a black background and shows the execution results:

```
Enter a string
john sena
The string is
john sena
```

The Windows taskbar at the bottom of the screen shows the time as 6:39 PM on 03-Aug-24. Various application icons are visible in the taskbar, including Windows Explorer, DEV, zm, and others.



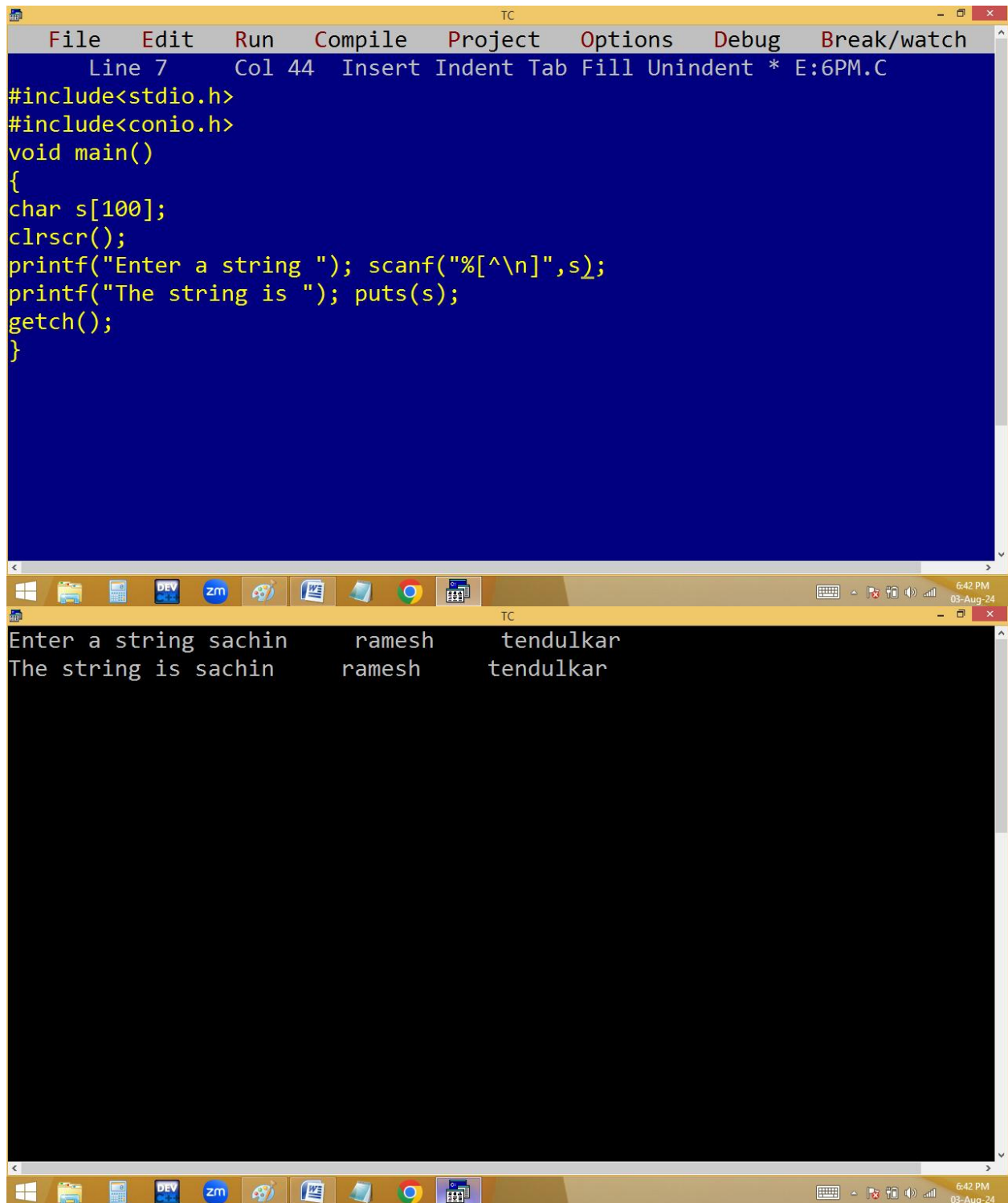
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the code editor, which has a blue background and displays the following C code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 7 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100];
clrscr();
puts("Enter a string "); gets(s);
printf("The string is "); puts(s);
getch();
}
```

The bottom window is the output console, which has a black background and shows the execution results:

```
Enter a string
john sena
The string is john sena
```

The Windows taskbar at the bottom of the screen shows the time as 6:39 PM on 03-Aug-24. Various application icons are visible in the taskbar, including Windows Explorer, DEV C++, Zoom, and Google Chrome.



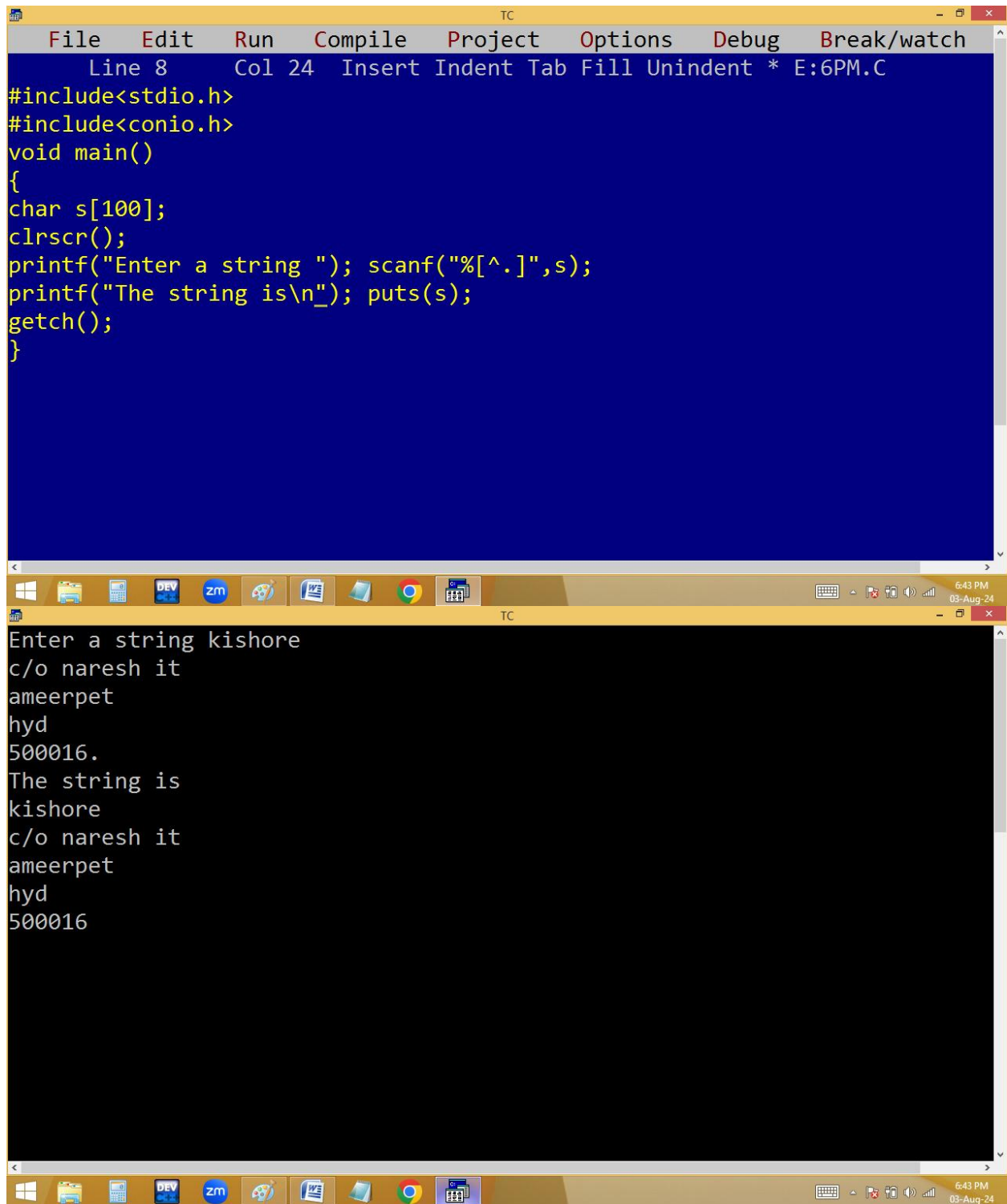
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays a C program with the following code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 7 Col 44 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100];
clrscr();
printf("Enter a string "); scanf("%[^\n]",s);
printf("The string is "); puts(s);
getch();
}
```

The bottom window shows the execution output of the program:

```
Enter a string sachin      ramesh      tendulkar
The string is sachin      ramesh      tendulkar
```

The IDE interface includes a menu bar at the top with options: File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the bottom right indicates the time as 6:42 PM on 03-Aug-24. The taskbar at the very bottom shows various application icons, including Windows, File Explorer, DEV, zm, and others.



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code of a C program. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. Inside `main`, a character array `s` of size 100 is declared, the screen is cleared with `clrscr()`, and the user is prompted to enter a string. The input is read using `scanf` and displayed using `printf` and `puts`. A `getch()` call is used to pause the program before exiting.

```
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 24 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100];
clrscr();
printf("Enter a string "); scanf("%[^\n]",s);
printf("The string is\n"); puts(s);
getch();
}
```

The bottom window shows the execution output of the program. It displays the prompts and the user's input, followed by the formatted output of the string.

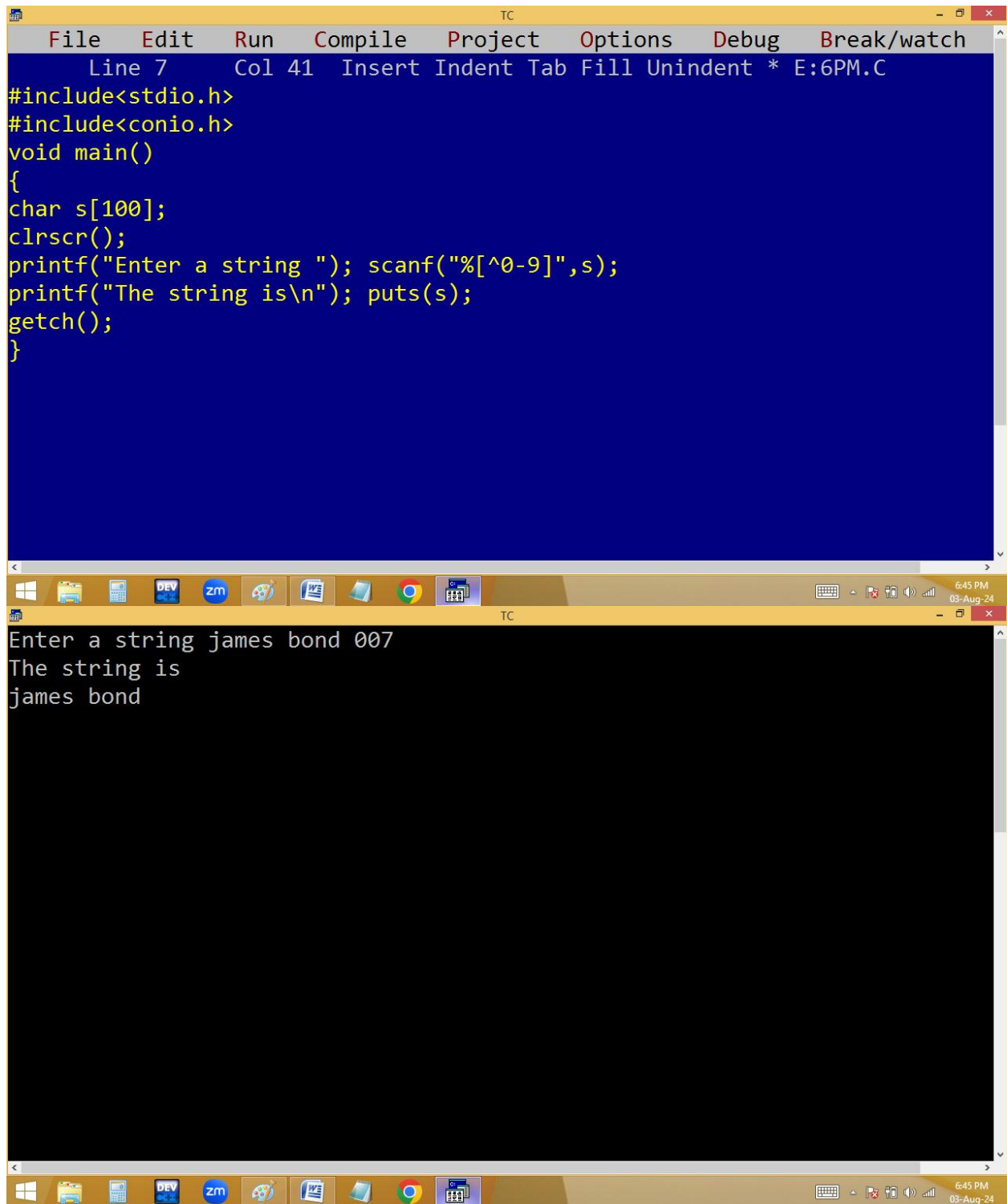
```
Enter a string kishore
c/o naresh it
ameerpet
hyd
500016.
The string is
kishore
c/o naresh it
ameerpet
hyd
500016
```

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 7 Col 41 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100];
clrscr();
printf("Enter a string "); scanf("%[^@#$_]",s);
printf("The string is\n"); puts(s);
getch();
}
```

```
TC
Enter a string kishore#1
The string is
kishore
```

```
TC
Enter a string kishore@gmail.com
The string is
kishore
```

```
TC
Enter a string Indian$rupees
The string is
Indian
```



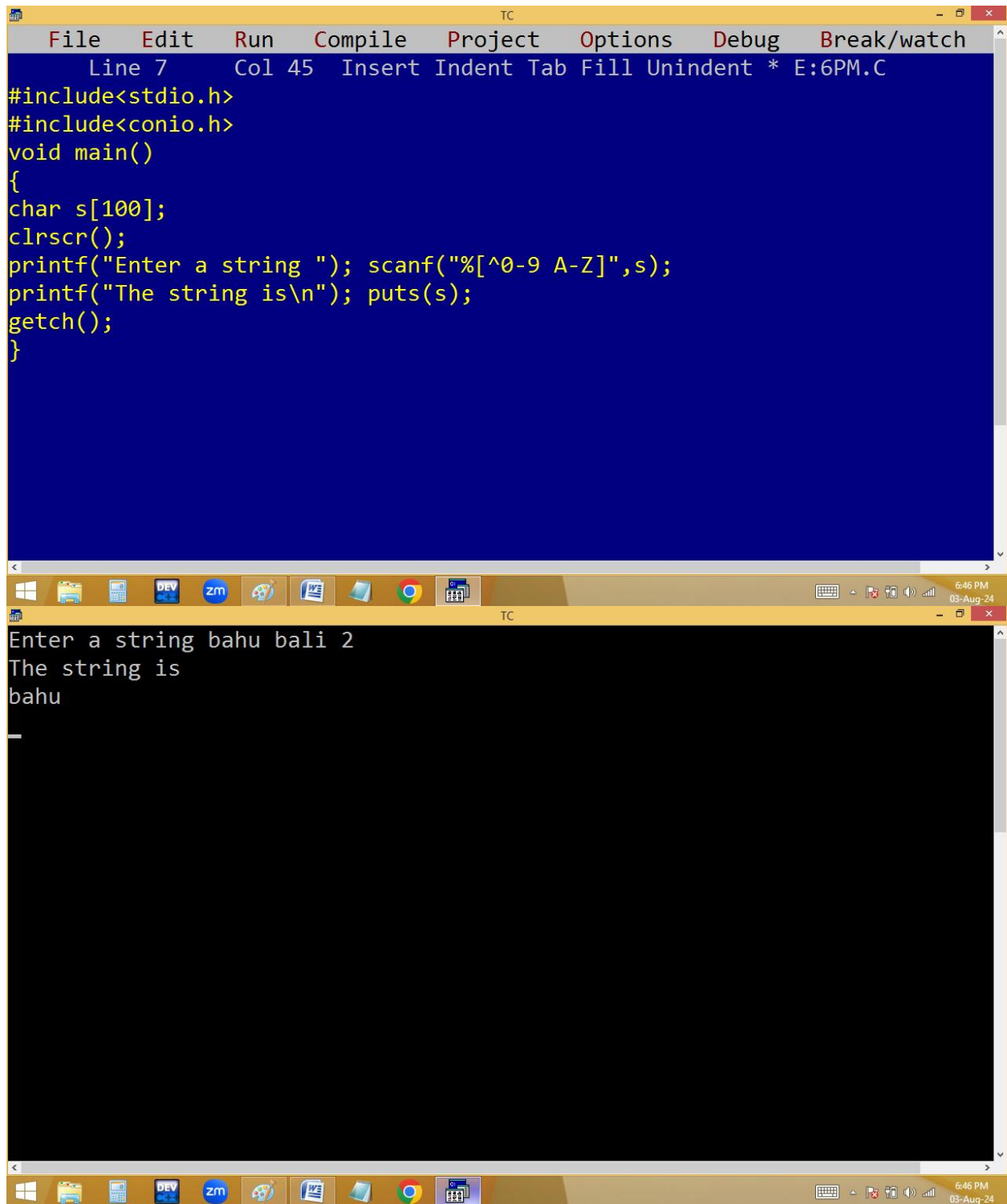
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the source code editor, which has a blue background and displays the following C code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 7 Col 41 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100];
clrscr();
printf("Enter a string "); scanf("%[^0-9]",s);
printf("The string is\n"); puts(s);
getch();
}
```

The bottom window is the output console, which has a black background and shows the execution results:

```
Enter a string james bond 007
The string is
james bond
```

The Windows taskbar at the bottom of the screen shows the time as 6:45 PM on 03-Aug-24. Various application icons are visible in the taskbar, including Windows Explorer, DEV C++, Zoom, and Google Chrome.



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code of a C program. The code includes `<stdio.h>` and `<conio.h>`, defines a `main` function, declares a character array `s` of size 100, clears the screen with `clrscr()`, prompts the user to enter a string, reads the input using `scanf`, prints the string with `puts`, and waits for a key press with `getch()`. The bottom window shows the program's execution output, where the user has entered "bahu bali 2", and the program has printed "The string is" followed by "bahu".

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 7 Col 45 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100];
clrscr();
printf("Enter a string "); scanf("%[^0-9 A-Z]",s);
printf("The string is\n"); puts(s);
getch();
}
```

Enter a string bahu bali 2
The string is
bahu

TC

```
Enter a string James bond 007
The string is
```

TC

File Edit Run Compile Project Options Debug Break/watch

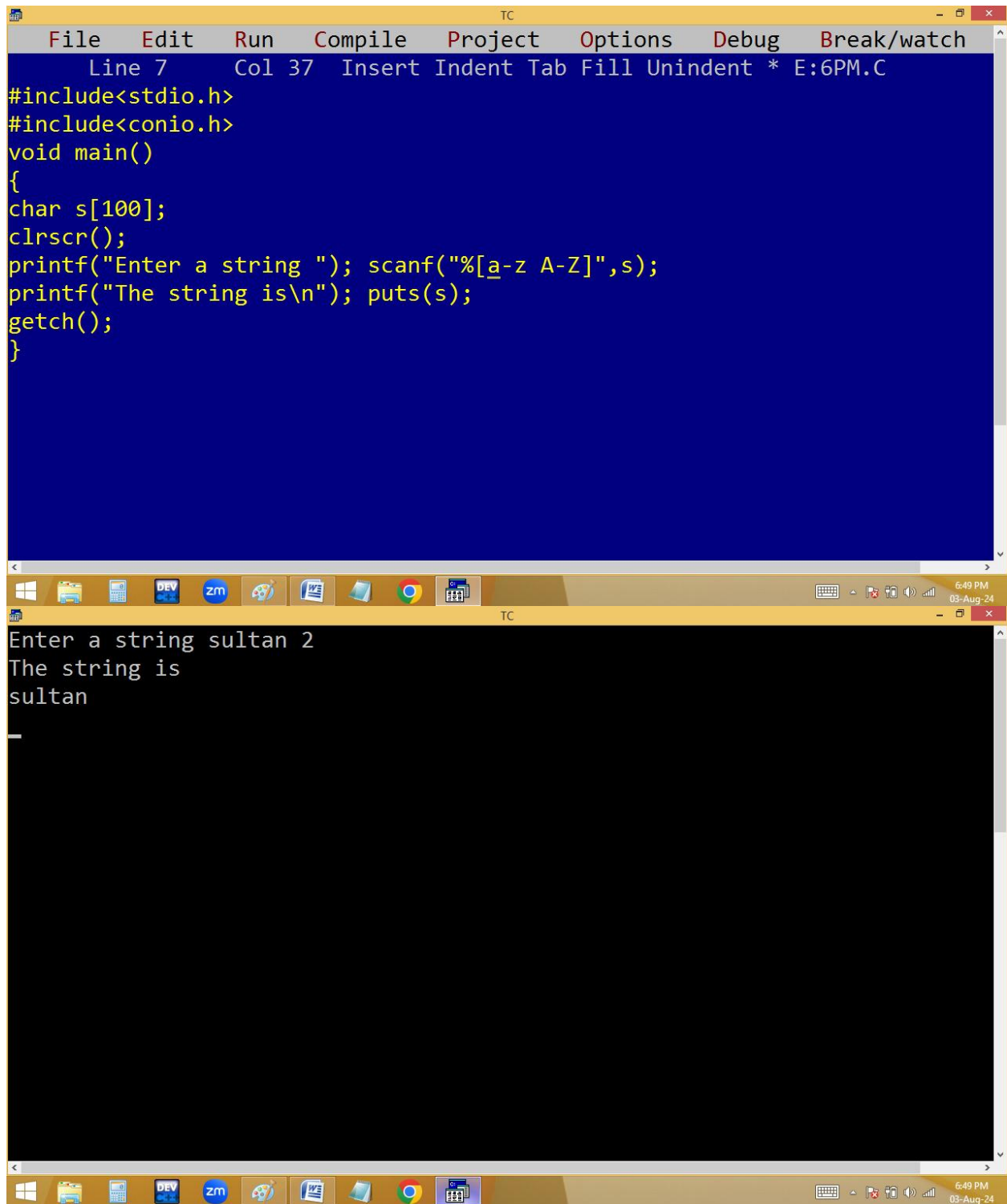
Line 7 Col 37 Insert Indent Tab Fill Unindent * E:6PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100];
clrscr();
printf("Enter a string "); scanf("%[0-9 A-Z]",s);
printf("The string is\n"); puts(s);
getch();
}
```



```
TC
Enter a string JAI HANUMAN 007
The string is
JAI HANUMAN 007
```

```
TC
Enter a string JAMES bond
The string is
JAMES
```



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code of a C program. The code includes headers for `stdio.h` and `conio.h`, defines a `main` function, declares a character array `s` of size 100, clears the screen with `clrscr()`, prompts the user to enter a string, reads the input using `scanf`, prints the string using `puts`, and waits for a key press using `getch`.

```
File Edit Run Compile Project Options Debug Break/watch
Line 7 Col 37 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100];
clrscr();
printf("Enter a string "); scanf("%[a-z A-Z]",s);
printf("The string is\n"); puts(s);
getch();
}
```

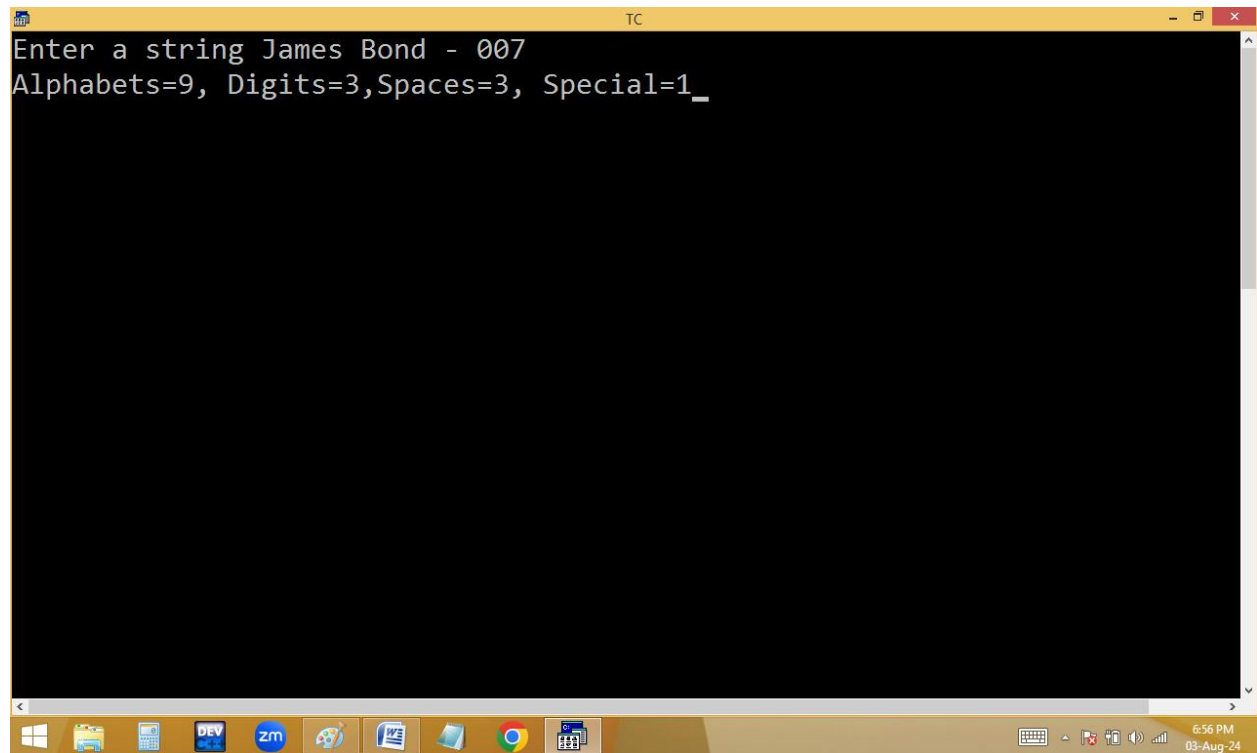
The bottom window shows the output of the program. It displays the prompt "Enter a string", the user input "sultan 2", and the output "The string is sultan".

```
Enter a string sultan 2
The string is
sultan
```

Finding the no of alphabets, digits, spaces, special characters in given string

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 67 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int i, a, d, spe, spa;
clrscr();
printf("Enter a string "); gets(s);
for( a=d=spe=spa=i=0; s[i] ; i++)
if(s[i]>='a'&& s[i]<='z' || s[i]>='A'&& s[i]<='Z') a++;
else if(s[i]>='0' && s[i]<='9') d++;
else if(s[i]==' ')spa++;
else spe++;
printf("Alphabets=%d, Digits=%d,Spaces=%d, Special=%d",a,d,spa,spe);
getch();
}
```

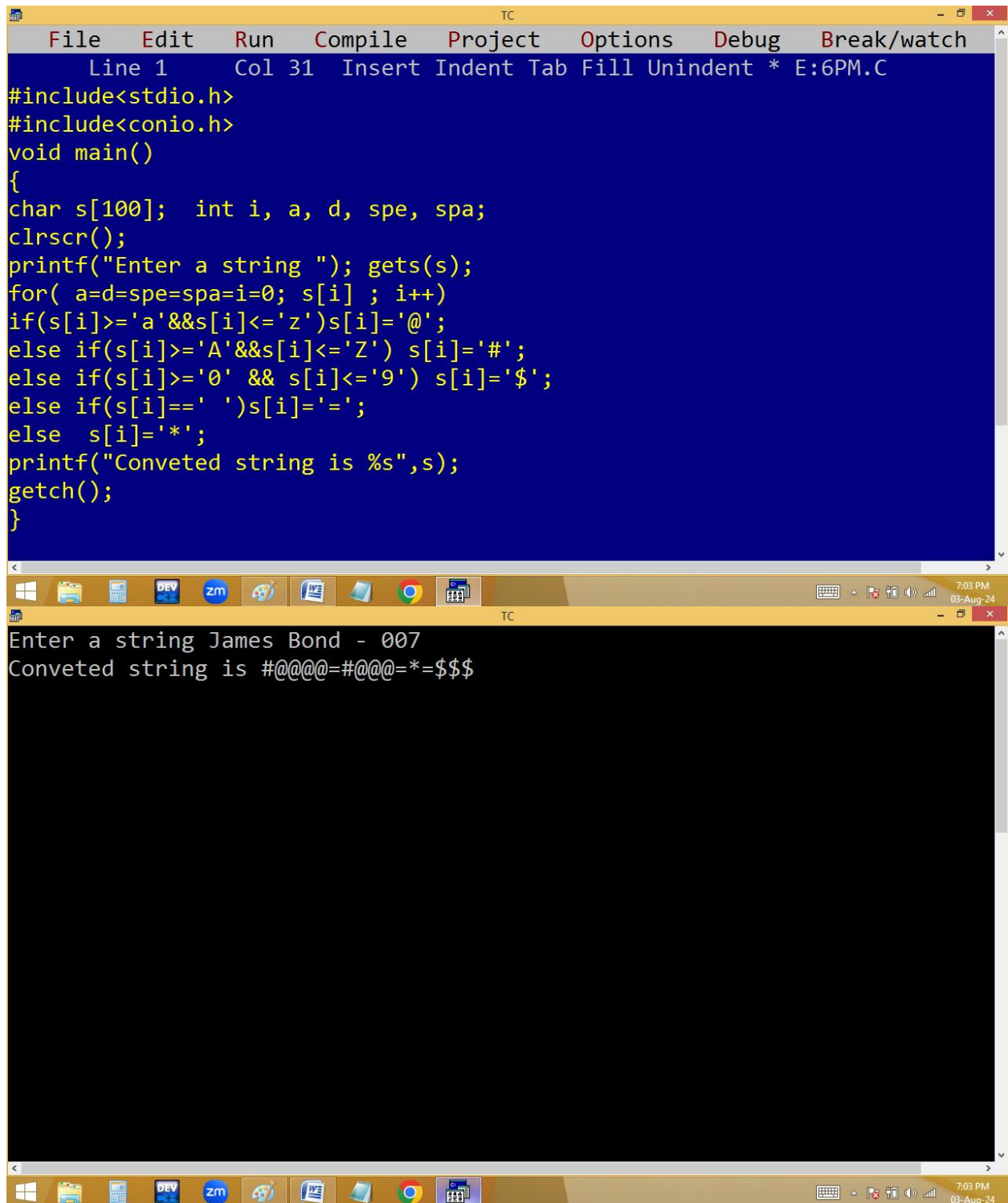
Enter a string I am Proud To Be Indian
Alphabets=18, Digits=0,Spaces=5, Special=0_



The screenshot shows a Turbo C++ (TC) window with a yellow title bar. The main window area is black, and the text is displayed in white. The text reads: "Enter a string James Bond - 007" followed by "Alphabets=9, Digits=3, Spaces=3, Special=1_". The window has standard Windows controls (minimize, maximize, close) in the top right corner. The Windows taskbar is visible at the bottom, showing various application icons and the system clock indicating 6:56 PM on 03-Aug-24.

```
Enter a string James Bond - 007
Alphabets=9, Digits=3, Spaces=3, Special=1_
```

Replace lower/ upper / digits / special / spaces with @/#/\$/*/=

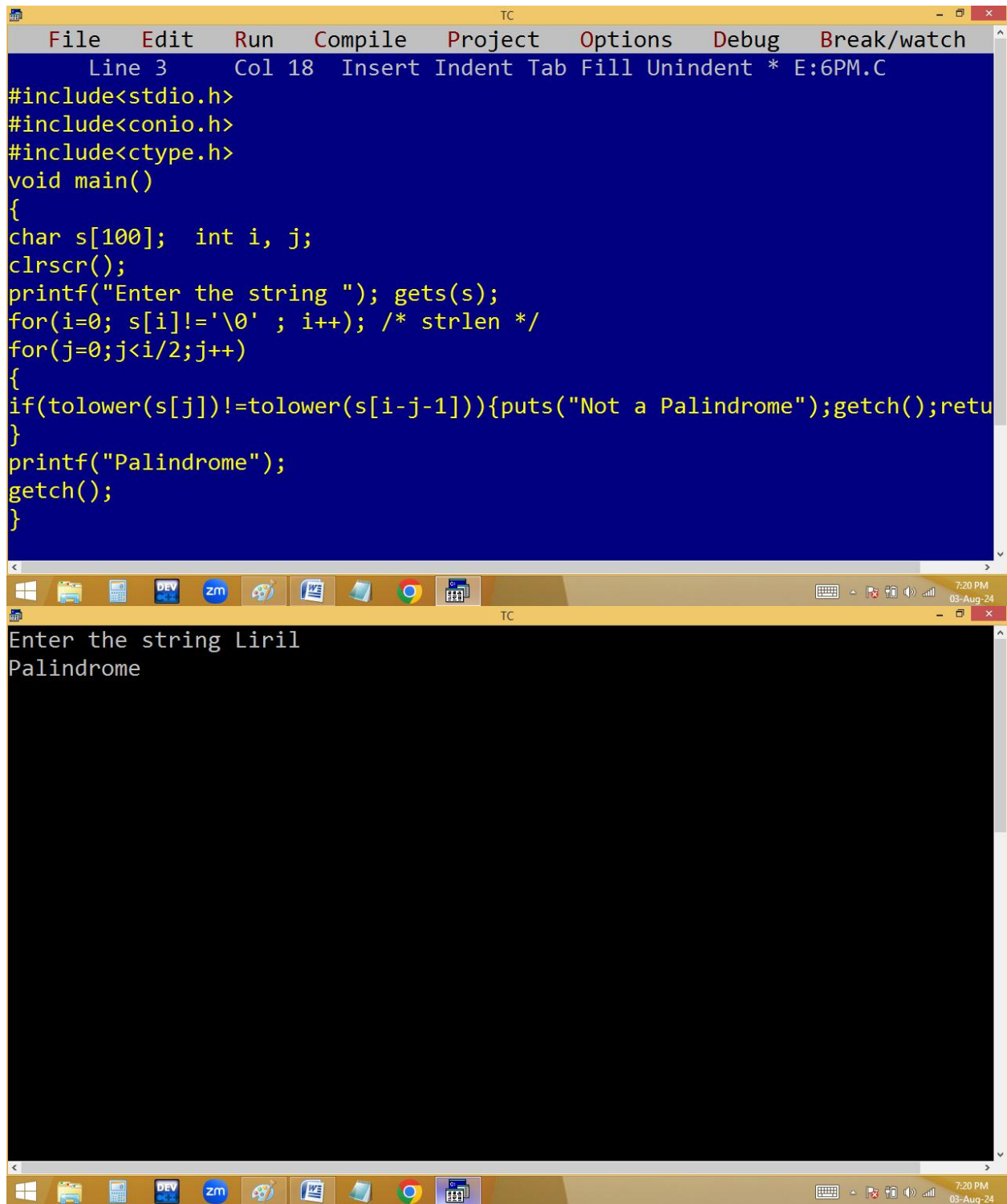


```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 1 Col 31 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int i, a, d, spe, spa;
clrscr();
printf("Enter a string "); gets(s);
for( a=d=spe=spa=i=0; s[i] ; i++)
if(s[i]>='a'&&s[i]<='z')s[i]='@';
else if(s[i]>='A'&&s[i]<='Z') s[i]='#';
else if(s[i]>='0' && s[i]<='9') s[i]='$';
else if(s[i]==' ')s[i]='=';
else s[i]='*';
printf("Conveted string is %s",s);
getch();
}
```

Enter a string James Bond - 007
Conveted string is #@@@@=#@@@@=*=\$\$\$

Finding palindrome or not using single string:

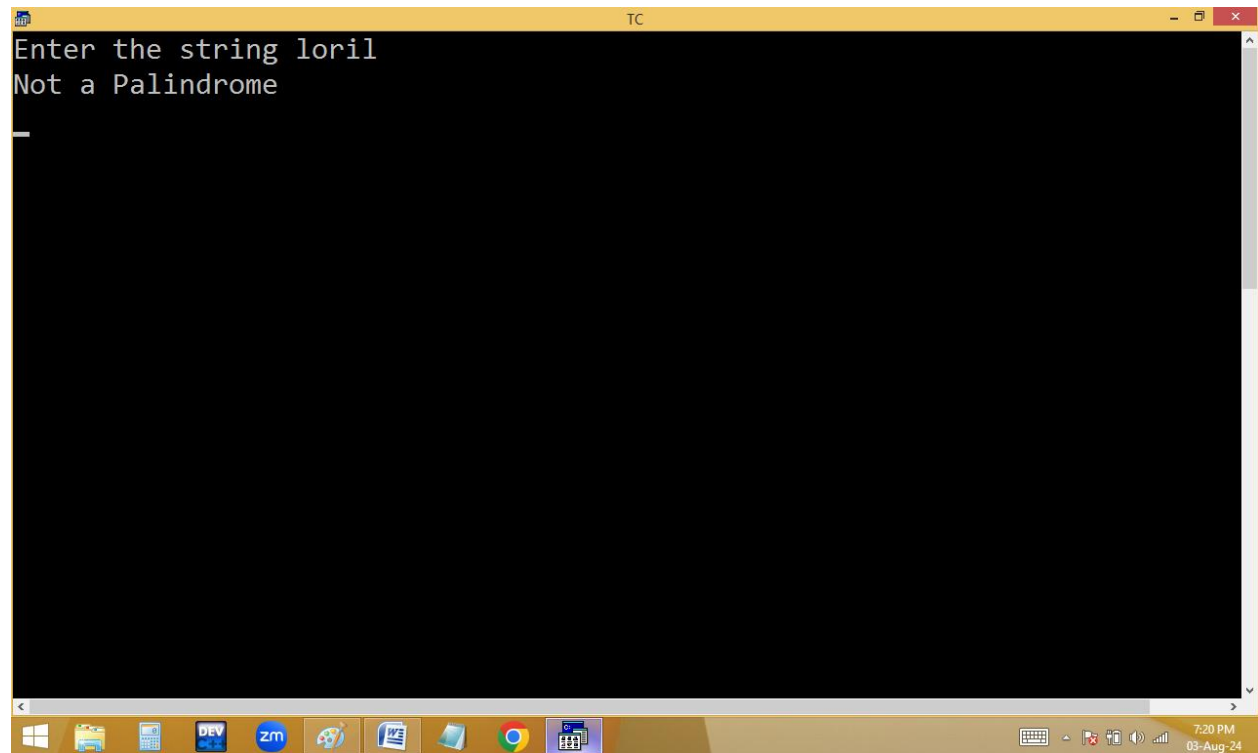
liril, madam, malayalam, ...

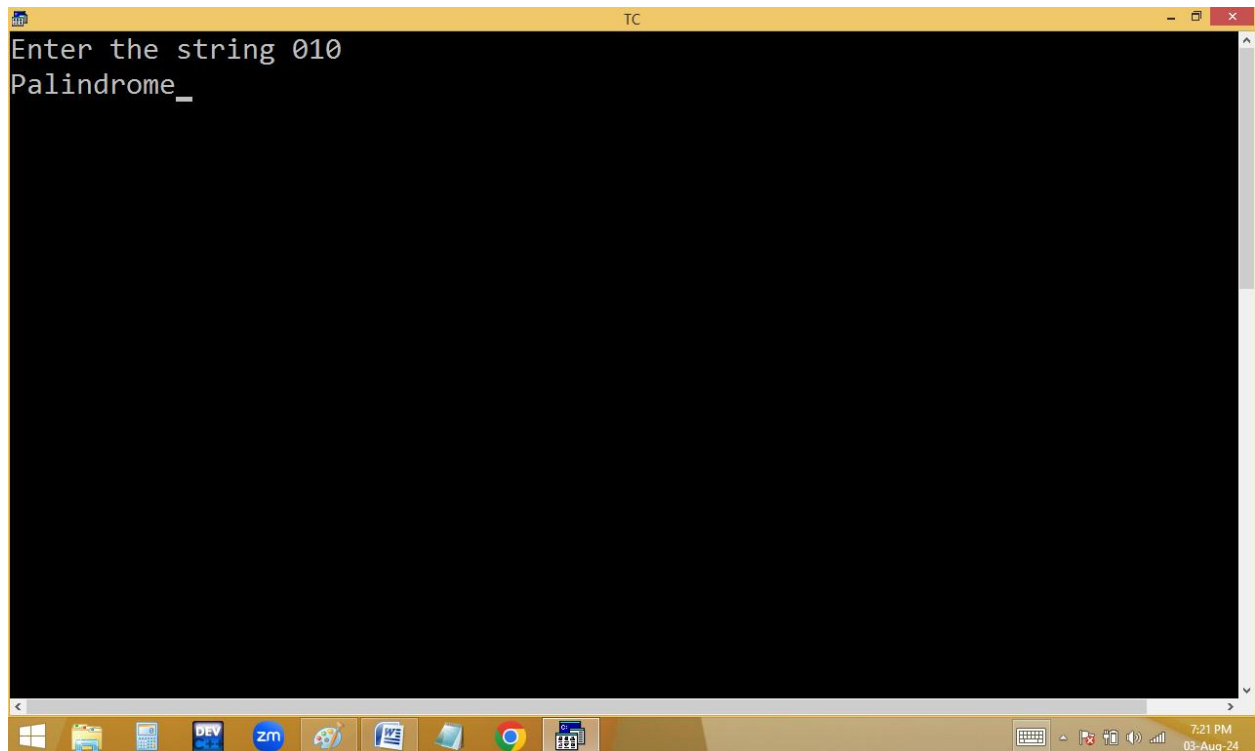


```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 3 Col 18 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
#include<ctype.h>
void main()
{
char s[100]; int i, j;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i]!='\0' ; i++); /* strlen */
for(j=0; j<i/2; j++)
{
if(tolower(s[j])!=tolower(s[i-j-1])){puts("Not a Palindrome");getch();return;}
}
printf("Palindrome");
getch();
}
```

Enter the string Liril
Palindrome

7:20 PM
03-Aug-24



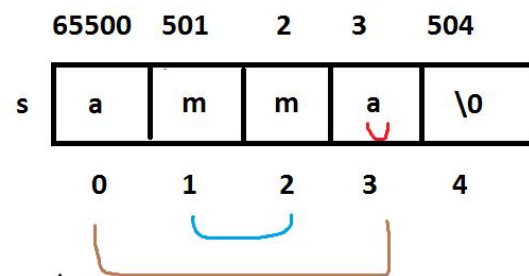


for(i=0; s[i]!='\0';i++); length=4

```

for( j=0; j<i/2;j++)
{
    if(a[ j]!=a[i-j-1])
    {
        p("not a palindrome"); return;
    }
}
p(palin);

```



$$\frac{i-j-1}{4-0-1} = 3 \checkmark \quad \frac{j}{0} \checkmark$$

$$4-1-1 = 2 \quad 1$$

2

Home work:

1. Finding palindrome using 2 strings.
2. Finding no of words in given string
Eg: Jaanu I miss you → 4 words

