

TC

File Edit Run Compile Project Options Debug Break/watch

Error: Redeclaration of 'a' in function main

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a=10;
float a=1.20;
clrscr();
printf("a=%d",a);
getch();
}
/* Error */
```

You are screen sharing Stop share

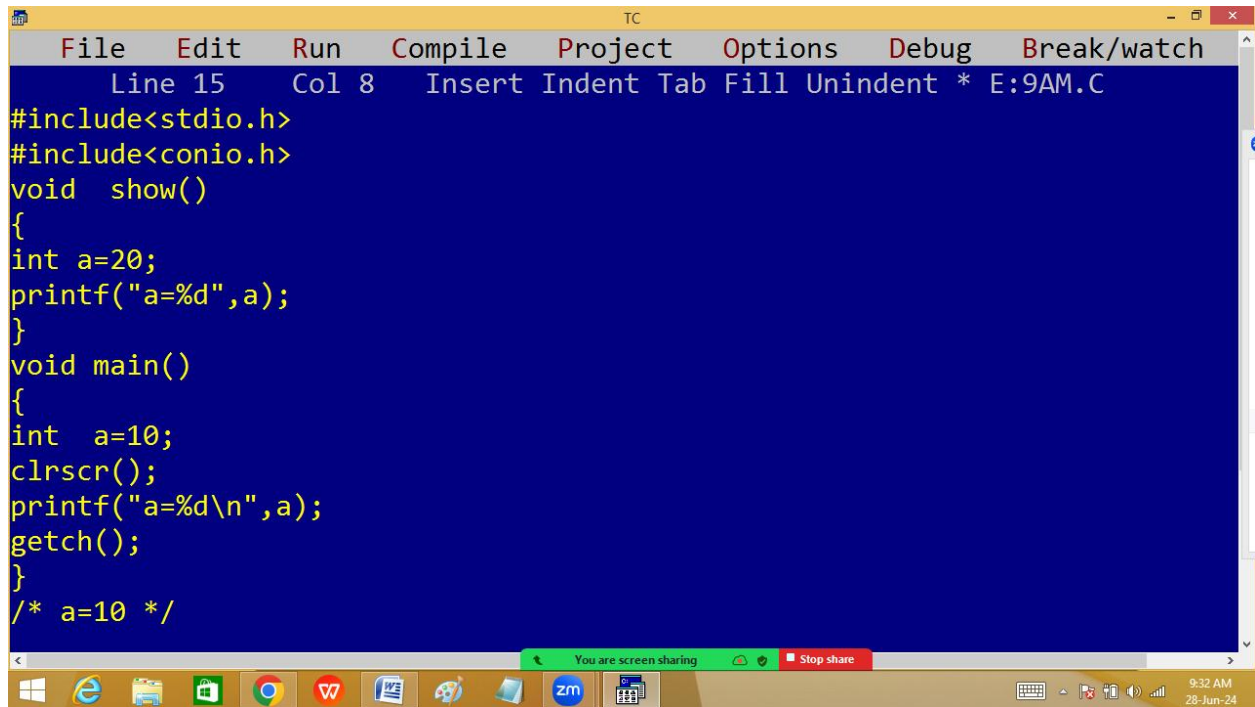
9:27 AM 28-Jun-24

TC

```
#include<stdio.h>
#include<conio.h>
void show()
{
int a=20;
printf("a=%d",a);
}
void main()
{
int a=10;
clrscr();
printf("a=%d\n",a);
show();
getch();
}
/* a=10, a=20 */
```

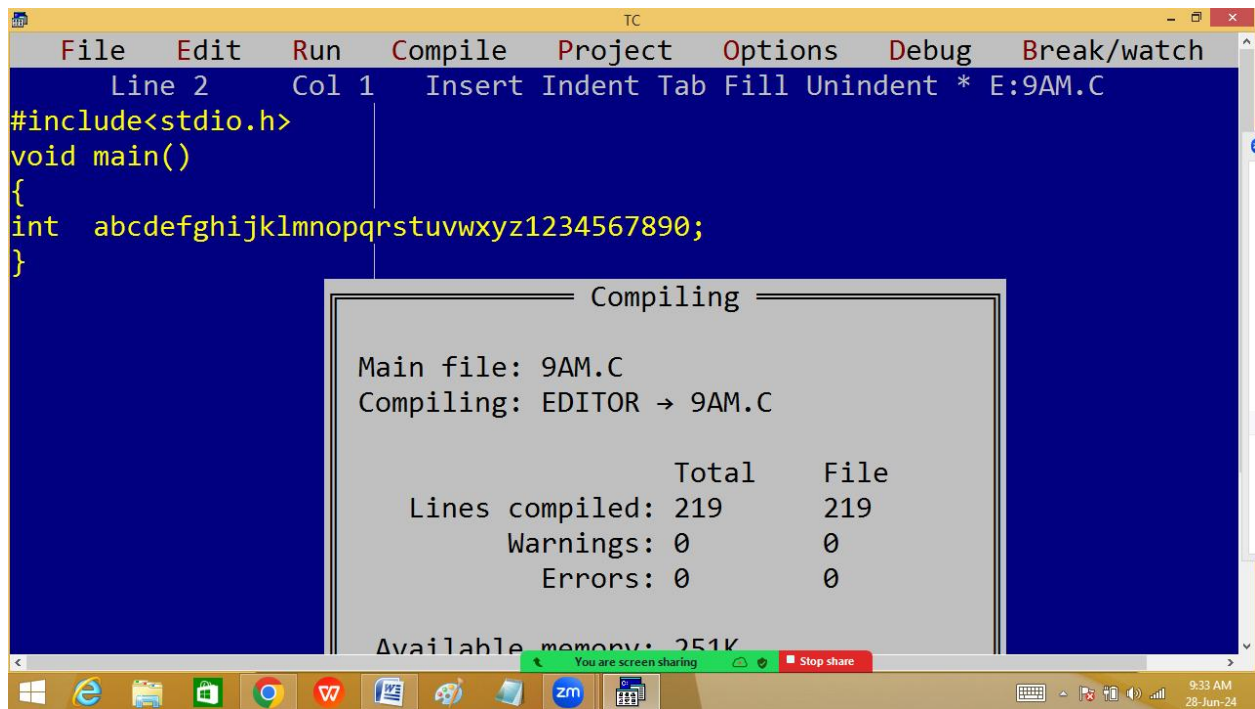
You are screen sharing Stop share

9:32 AM 28-Jun-24



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 15 Col 8 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void show()
{
int a=20;
printf("a=%d",a);
}
void main()
{
int a=10;
clrscr();
printf("a=%d\n",a);
getch();
}
/* a=10 */
```

8. Name may contain up to 32 characters and excess characters ignored by the compiler.



The image shows a screenshot of a Turbo C++ (TC) IDE window. The main window has a blue background and displays a C program. The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the bottom indicates 'Line 2 Col 1' and 'Insert Indent Tab Fill Unindent * E:9AM.C'. The code in the editor is as follows:

```
#include<stdio.h>
void main()
{
int  abcdefghijklmnopqrstuvwxyz1234567890;
}
```

A 'Compiling' dialog box is open in the foreground, showing the compilation process. It displays the main file as '9AM.C' and the compiler as 'EDITOR → 9AM.C'. The output shows that 219 lines were compiled, with 0 warnings and 0 errors. The available memory is 251K.

	Total	File
Lines compiled:	219	219
Warnings:	0	0
Errors:	0	0

Available memory: 251K

The Windows taskbar at the bottom shows various icons, including the Start button, Internet Explorer, File Explorer, Google Chrome, Word, and Zoom. The system clock in the bottom right corner shows 9:33 AM on 28-Jun-24.

The image shows two screenshots of the Turbo C++ (TC) IDE. The top screenshot displays a compilation error: "Error: Redeclaration of 'abcdefghijklmnopqrstuvwxyz123456' in function main". The code in the editor is as follows:

```
#include<stdio.h>
void main()
{
int  abcdefghijklmnopqrstuvwxyz1234567890;
int  abcdefghijklmnopqrstuvwxyz123456;
}
```

The bottom screenshot shows the same code after modification. The variable name has been changed to "abcdefghijklmnopqrstuvwxyz12345" in the second declaration. A "Compiling" dialog box is open, showing the following details:

Main file: 9AM.C
Compiling: EDITOR → 9AM.C

	Total	File
Lines compiled:	232	232
Warnings:	0	0
Errors:	0	0

Available memory: 251K
Success : Press any key

The Windows taskbar at the bottom shows the time as 9:35 AM and 9:36 AM on 28-Jun-24. A "You are screen sharing" notification is visible in the top right of the taskbar area.

Constants: Fixed values are called constants. We can't change a constant value during program execution. Constant value should be provided at the time of declaration only. i.e. further initializations not allowed.

Numerical constants:

```
const float pi=3.14;
```

```
const int rollno=1234;
```

Character constants:

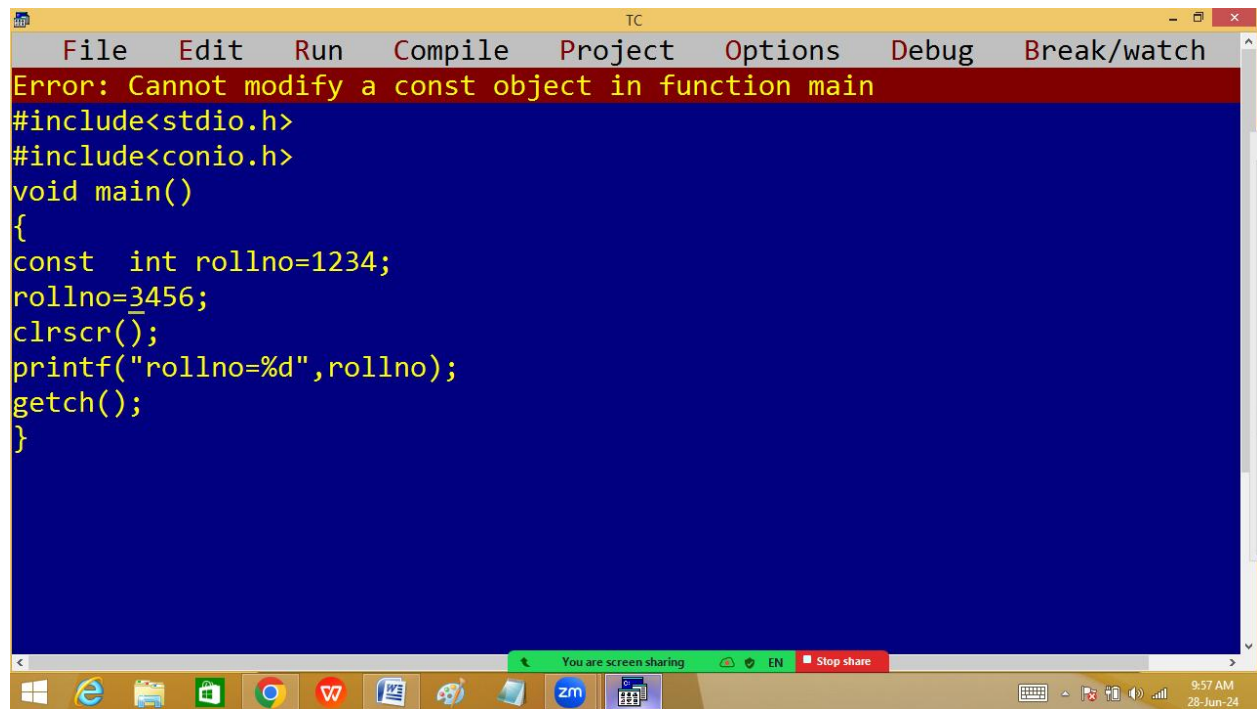
```
const char name[ ]="Ravi"; ← String constant
```

```
const char gender='M'; ← character constant
```

The image shows a screenshot of a Turbo C++ (TC) IDE window. The top menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the top indicates 'Line 5 Col 32 Insert Indent Tab Fill Unindent * E:9AM.C'. The main editing area has a blue background and contains the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int rollno=1234; /* variable */_
rollno=3456;
clrscr();
printf("rollno=%d",rollno);
getch();
}
```

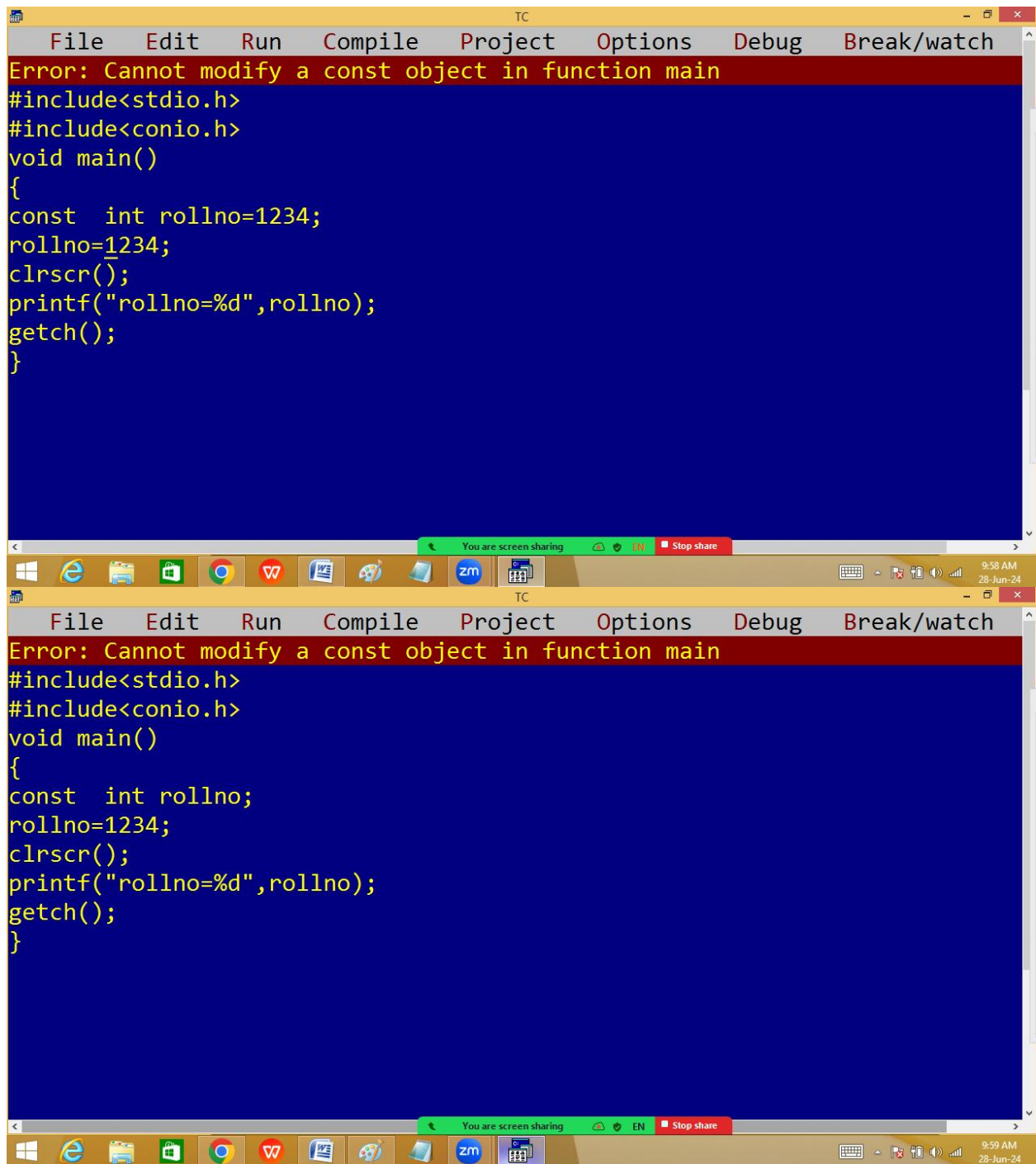
Below the code editor, a Windows taskbar is visible with icons for various applications. A green status bar above the taskbar reads 'You are screen sharing' and 'EN', with a red 'Stop share' button. Below the taskbar, a second TC window is open, displaying the output 'rollno=3456' on a black background. This window also has a green status bar with 'You are screen sharing' and 'EN', and a red 'Stop share' button. At the bottom, a Zoom toolbar is visible with buttons for Mute, Start Video, Participants (41), Chat, New share, Pause Share, Annotate, Remote control, Apps, and More. The Windows taskbar at the very bottom shows the time as 9:56 AM on 28-Jun-24.



The image shows a screenshot of a Turbo C++ (TC) IDE window. The title bar reads "TC". The menu bar includes "File", "Edit", "Run", "Compile", "Project", "Options", "Debug", and "Break/watch". A red error message banner at the top states: "Error: Cannot modify a const object in function main". The main editing area has a dark blue background and contains the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
    const int rollno=1234;
    rollno=3456;
    clrscr();
    printf("rollno=%d",rollno);
    getch();
}
```

At the bottom of the window, there is a Windows taskbar with various application icons (including Internet Explorer, File Explorer, Word, and Zoom) and a system tray showing the time as 9:57 AM on 28-Jun-24. A green status bar above the taskbar indicates "You are screen sharing" with a "Stop share" button.



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 18 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
const float pi=3.14;
clrscr();
printf("pi=%f",pi);
getch();
}
```

The bottom window shows the output of the program: `pi=3.140000_`. The Windows taskbar at the bottom includes icons for various applications and the system clock showing 10:01 AM on 28-Jun-24. A green status bar at the bottom of the IDE windows indicates "You are screen sharing".

String:

A group of characters is called string.

It is alpha-numeric.

It is a character array.

Eg:

Eg: `char vehicleno[]= "AP27AB5677";`

`char city[]="Hyd-1";` ← string

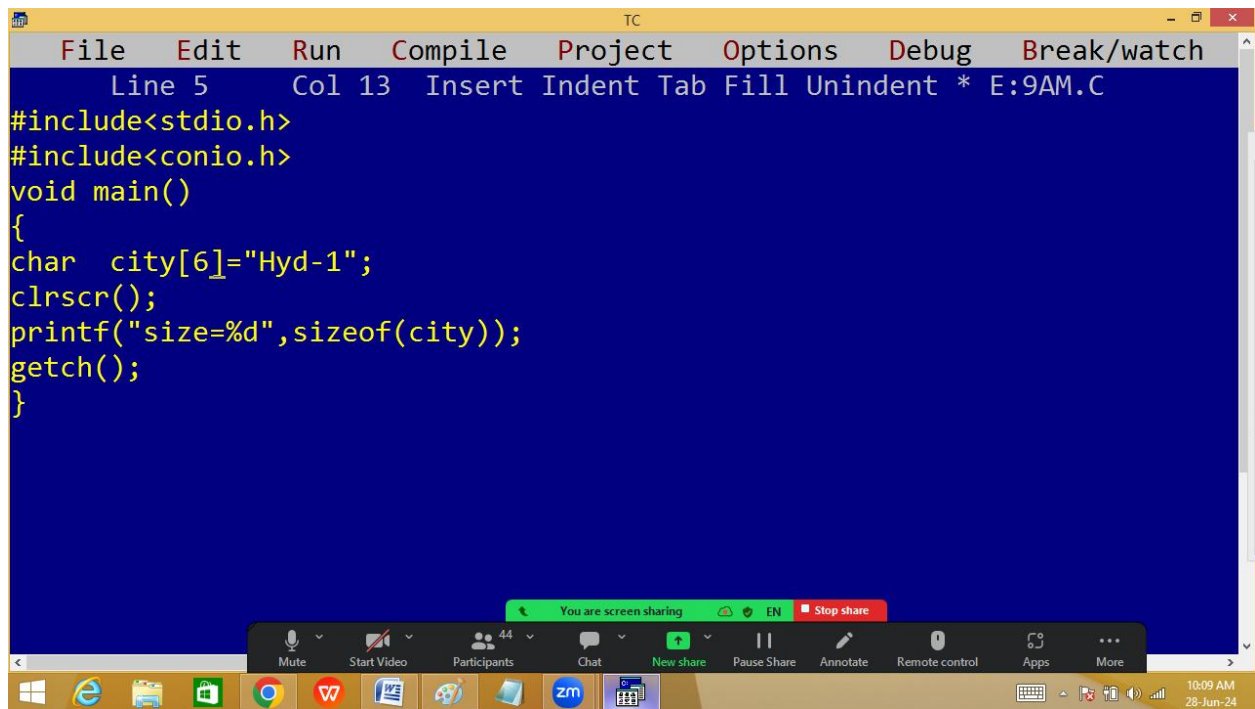
`char city[6]="Hyd-1";` ← string

BYTES

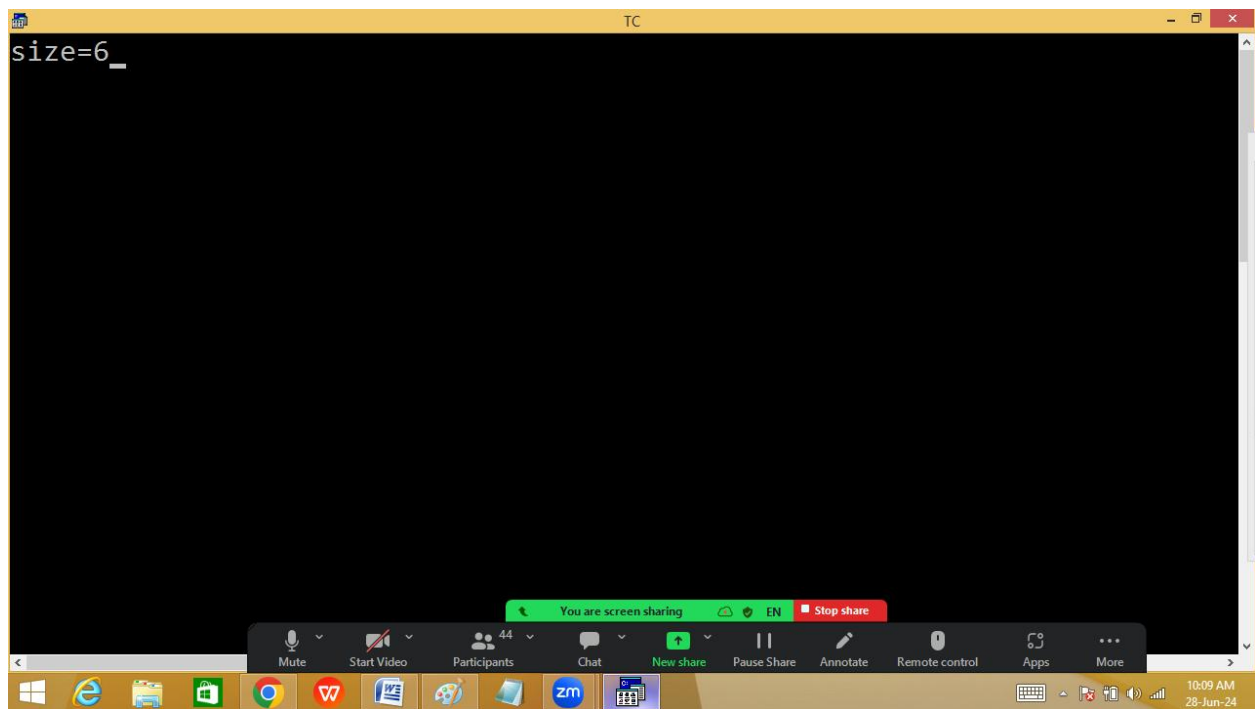


```
File Edit Run Compile Project Options Debug Break/watch
Line 5 Col 14 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char city[10]="Hyd-1";
clrscr();
printf("size=%d",sizeof(city));
getch();
}
```

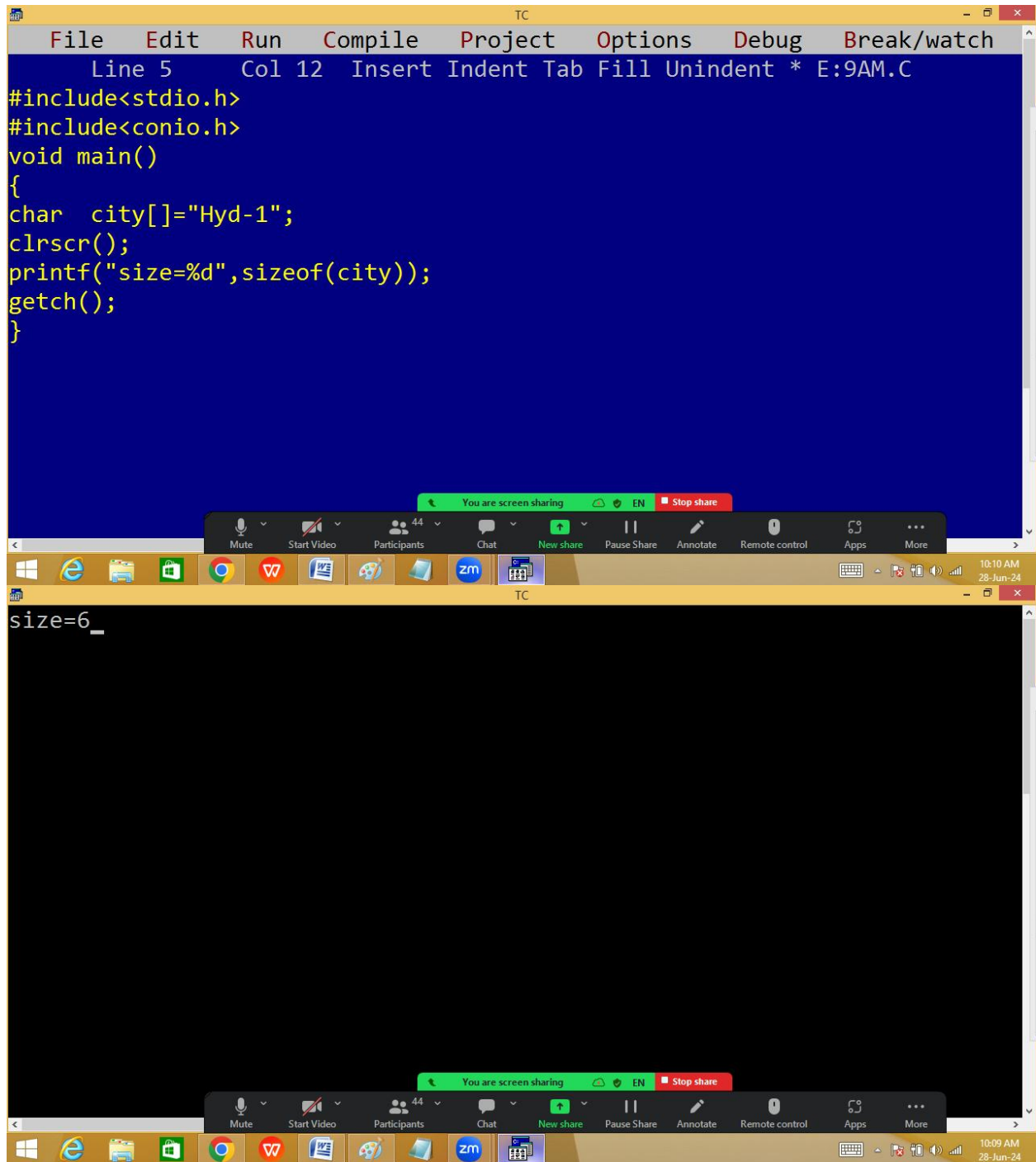
```
size=6_
```



```
File Edit Run Compile Project Options Debug Break/watch
Line 5 Col 13 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char city[6]="Hyd-1";
clrscr();
printf("size=%d",sizeof(city));
getch();
}
```



```
size=6_
```



The screenshot displays the Turbo C++ (TC) IDE. The top window shows the source code of a C program. The code includes `<stdio.h>` and `<conio.h>`, defines a `main` function, and declares a character array `city` initialized with "Hyd-1". It uses `clrscr()` to clear the screen, `printf` to print the string, and `getch()` to pause execution. The bottom window shows the program's output, which is "CITY=Hyd-1_". A green status bar at the bottom of both windows indicates "You are screen sharing".

```
File Edit Run Compile Project Options Debug Break/watch
Line 7 Col 22 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char city[]="Hyd-1";
clrscr();
printf("CITY=%s",city);
getch();
}
```

CITY=Hyd-1_

Note:

1. One byte should be left for null char. Otherwise we are getting garbage values.
2. String variable size never smaller than string.

3. We can't copy a string with = operator. We have to use strcpy().
4. We can't compare two strings with == operator. We have to use strcmp().

DATA TYPES

To store anything in our system we have to allocate the memory [bytes]. This memory allocation decided by the data type. Every memory location comes with 3 properties.

1. What **type of data** want to store
2. **How many bytes** required
3. What is the **value range**

These 3 properties controlled by the data type.

C comes with 3 basic data types.

1. Int – non decimal no
2. Float – dec & non dec
3. Char – alpha-numeric

Eg:

Signed int / Short int/int sal = **32000**; [int range -32768 to +32767]

unsigned int sal = 65000; [0 to 65535]

signed long int sal = 240000; [-2147483648 to +2147483647]

unsigned long int → 0 to 4294967295