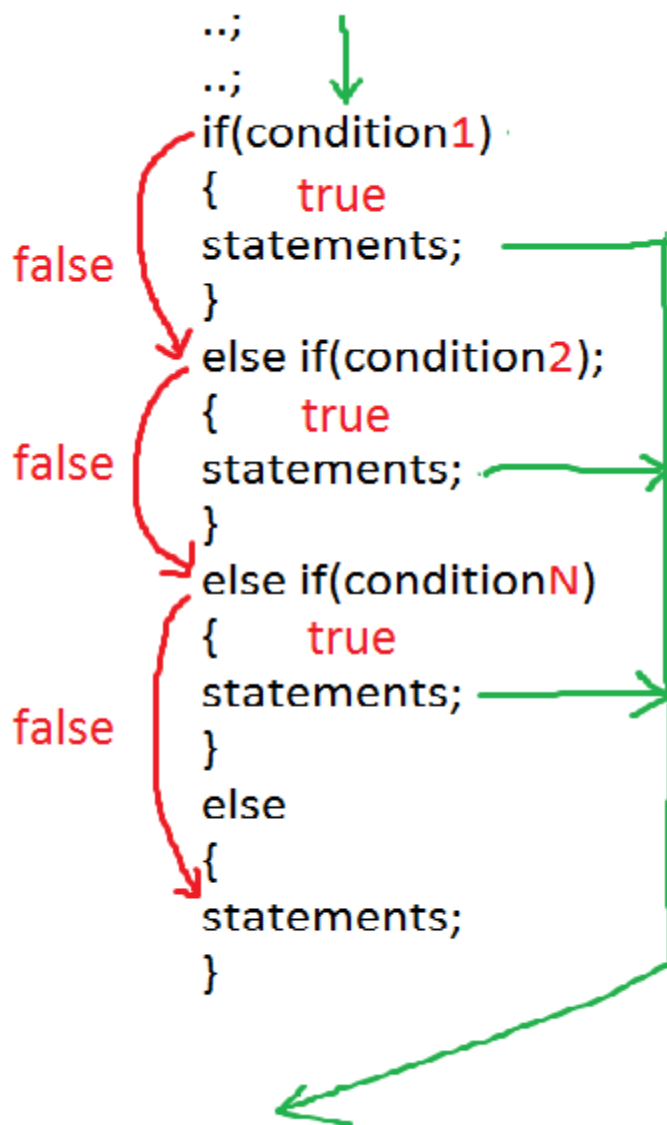
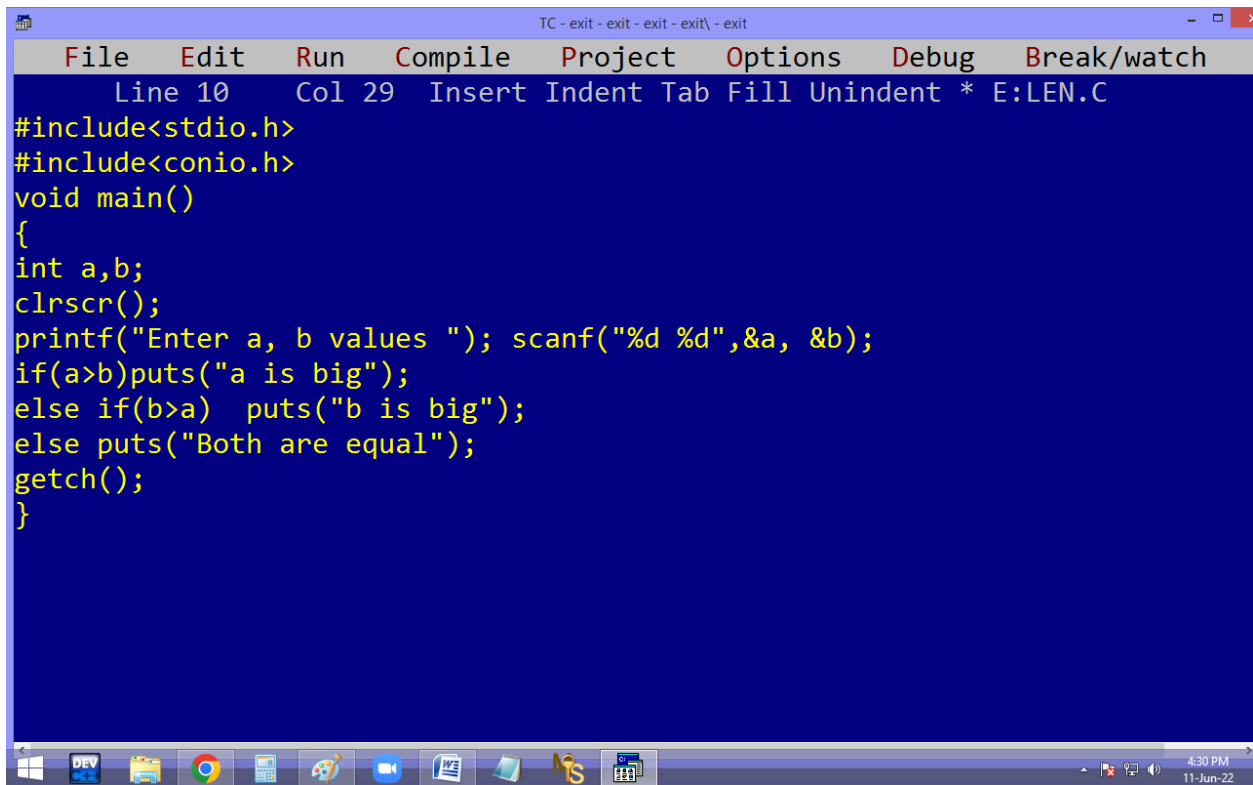


if...else if / ladder if

When the program contain 3 or more options and user have to select 1 then go for if else if ladder. In if..else if the conditions are tested from top to bottom one by one like the ladder steps and any one condition is true then statements in that if block are executed and program execution jumped to outside the if series. If no condition true then statements in else are executed. Here else is optional.

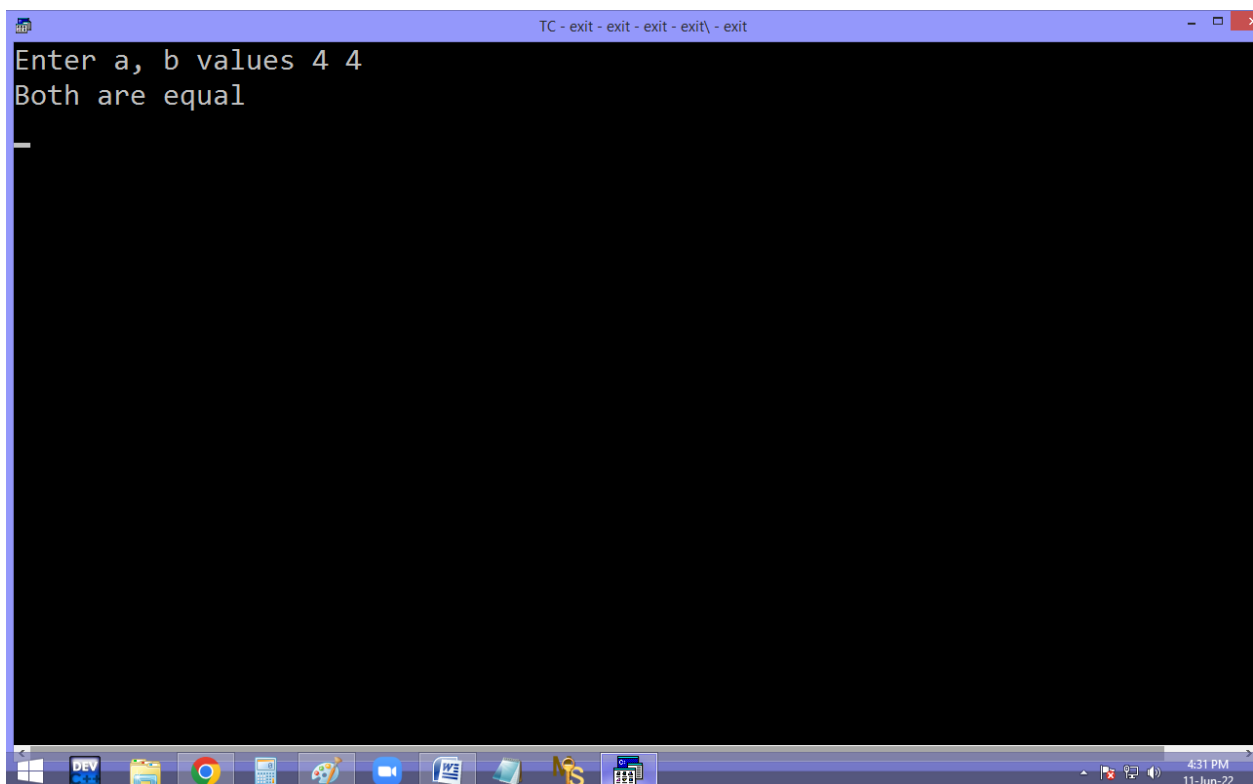


Eg. Finding max in 2 numbers.



The screenshot shows the Turbo C++ IDE with the following code in E:LEN.C:

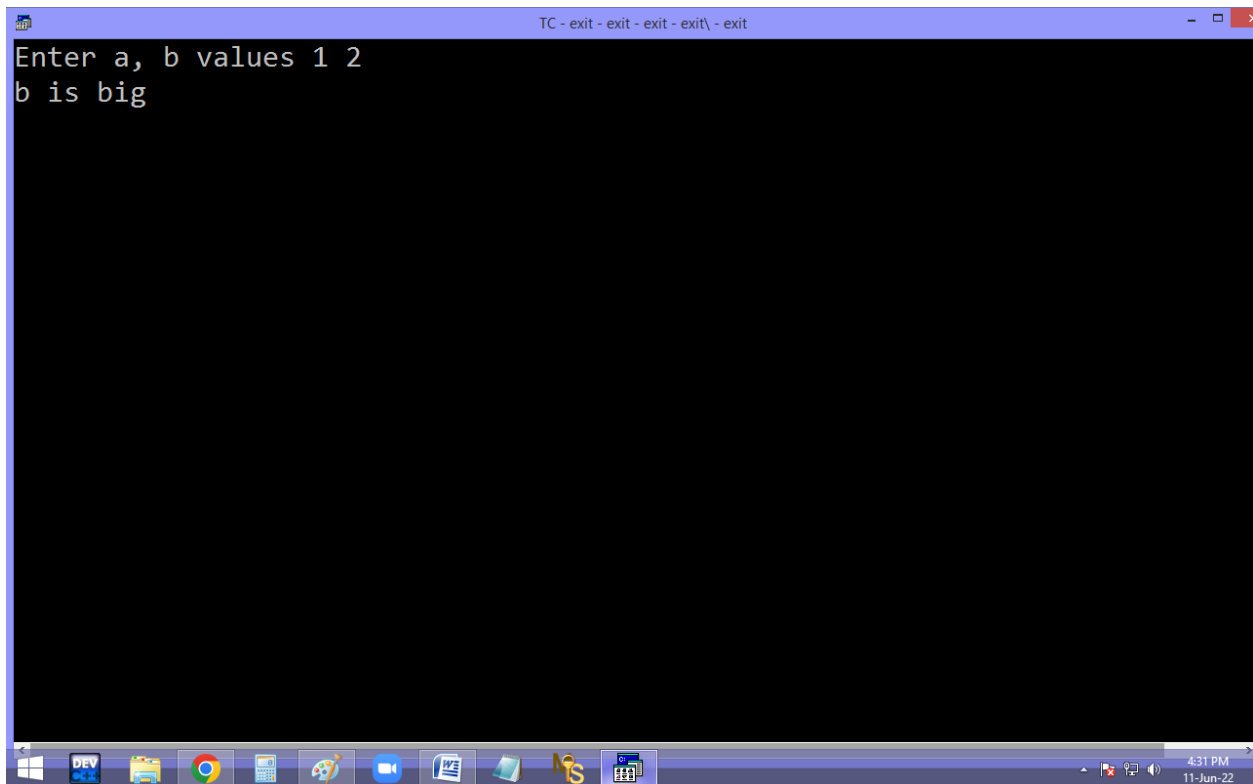
```
Line 10 Col 29 Insert Indent Tab Fill Unindent * E:LEN.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b;
clrscr();
printf("Enter a, b values "); scanf("%d %d",&a, &b);
if(a>b)puts("a is big");
else if(b>a) puts("b is big");
else puts("Both are equal");
getch();
}
```



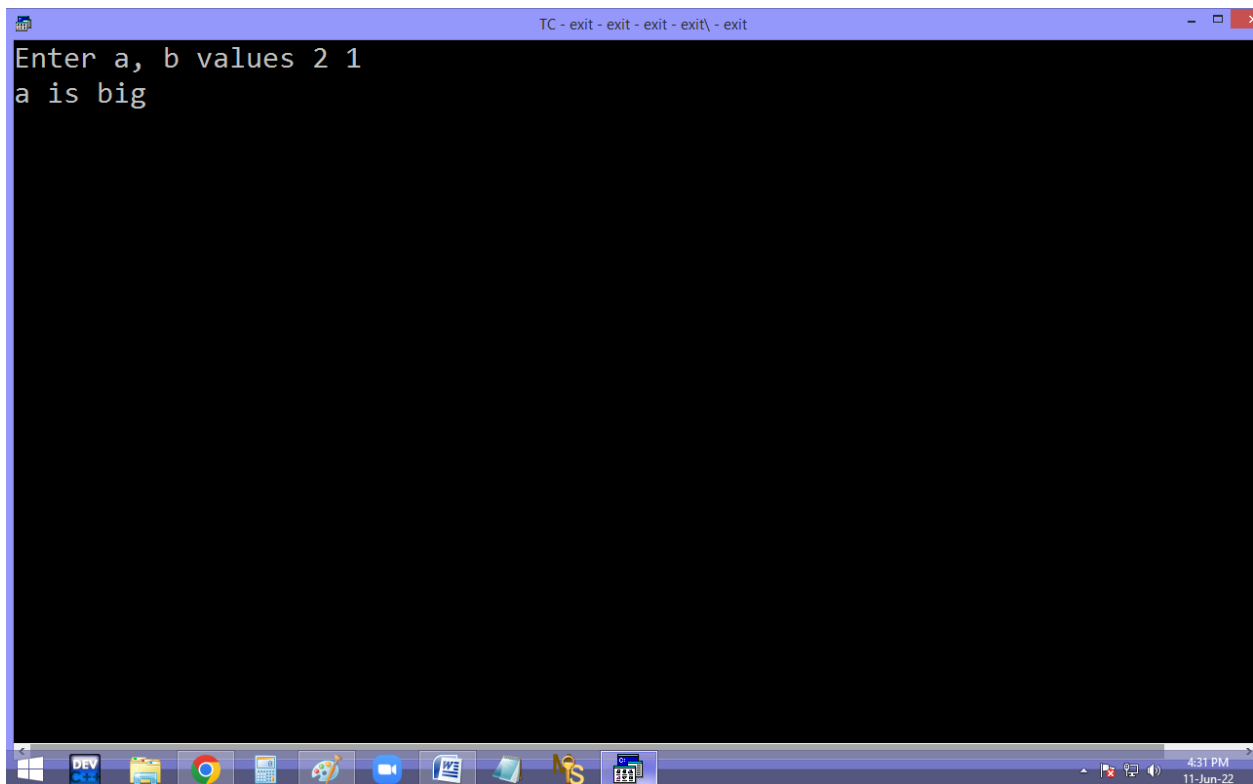
The screenshot shows the Turbo C++ IDE with the following output:

```
Enter a, b values 4 4
Both are equal
```

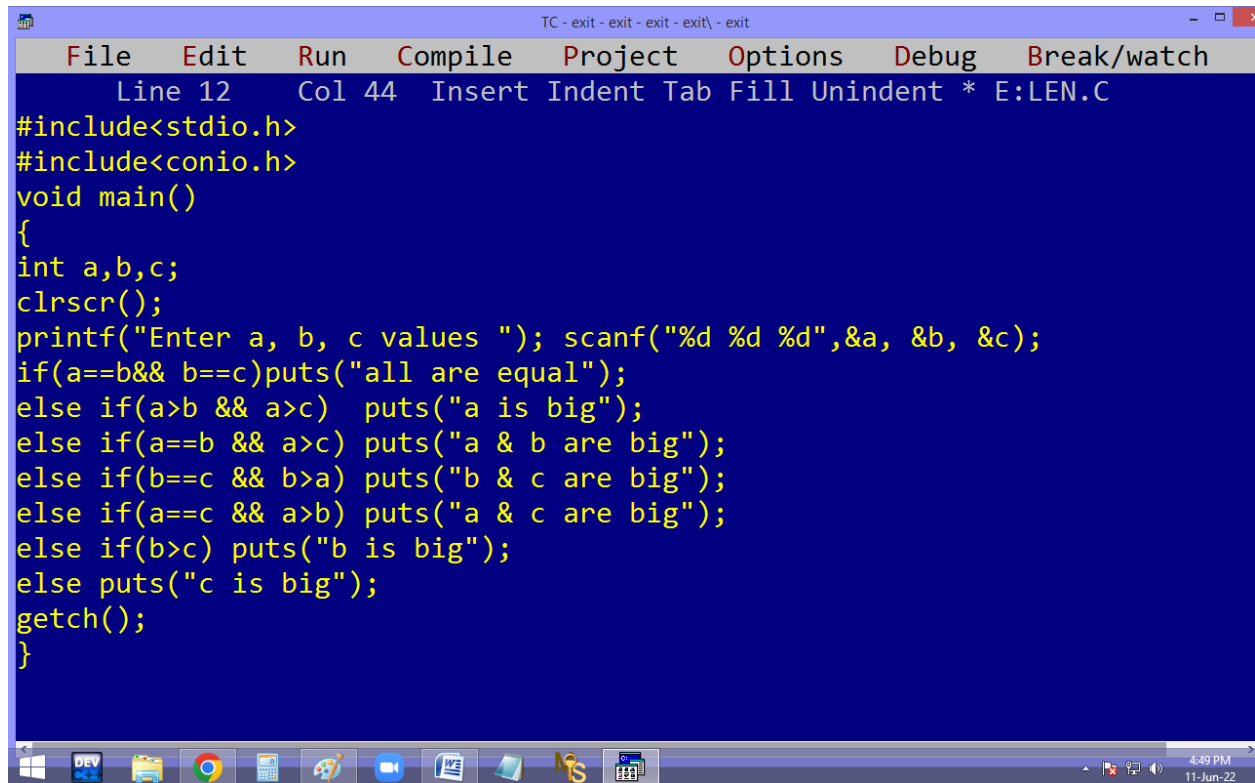
```
TC - exit - exit - exit - exit - exit
Enter a, b values 1 2
b is big
```



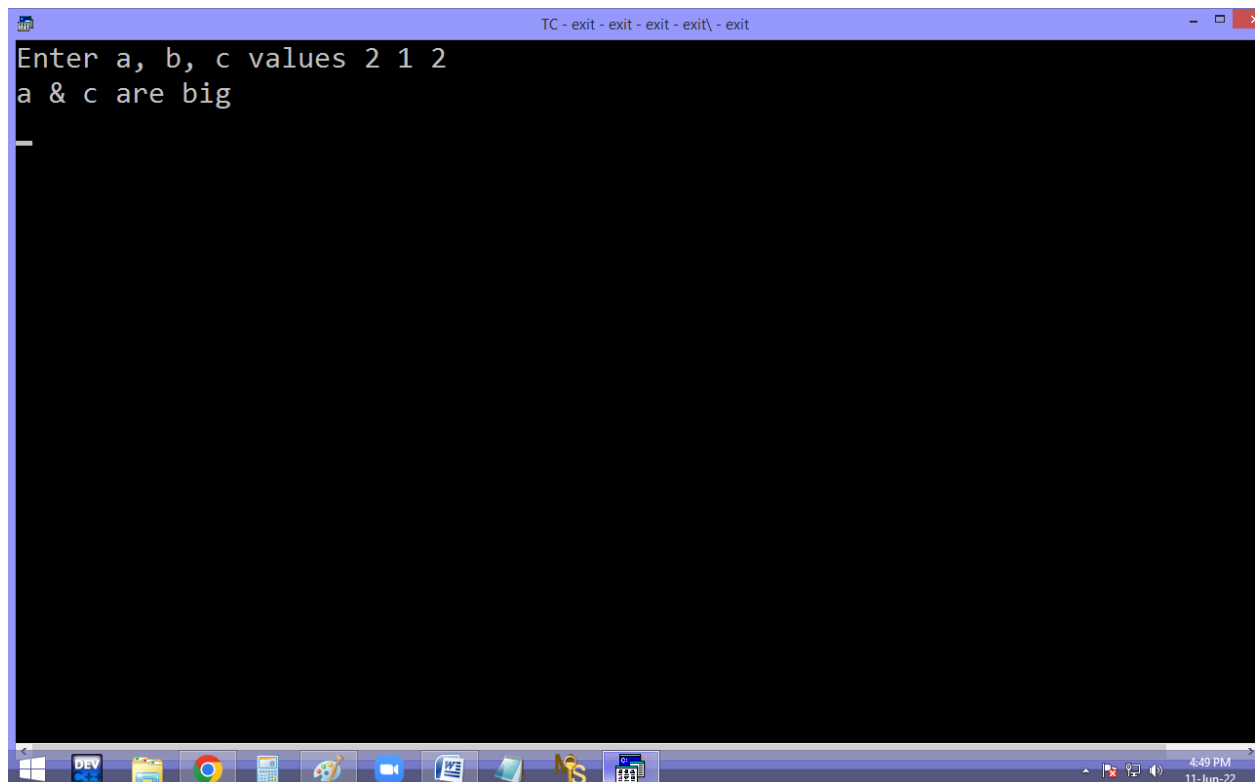
```
TC - exit - exit - exit - exit - exit
Enter a, b values 2 1
a is big
```



Finding big in 3 numbers.



```
TC - exit - exit - exit - exit\ - exit
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 44 Insert Indent Tab Fill Unindent * E:LEN.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c;
clrscr();
printf("Enter a, b, c values "); scanf("%d %d %d",&a, &b, &c);
if(a==b&& b==c)puts("all are equal");
else if(a>b && a>c) puts("a is big");
else if(a==b && a>c) puts("a & b are big");
else if(b==c && b>a) puts("b & c are big");
else if(a==c && a>b) puts("a & c are big");
else if(b>c) puts("b is big");
else puts("c is big");
getch();
}
```

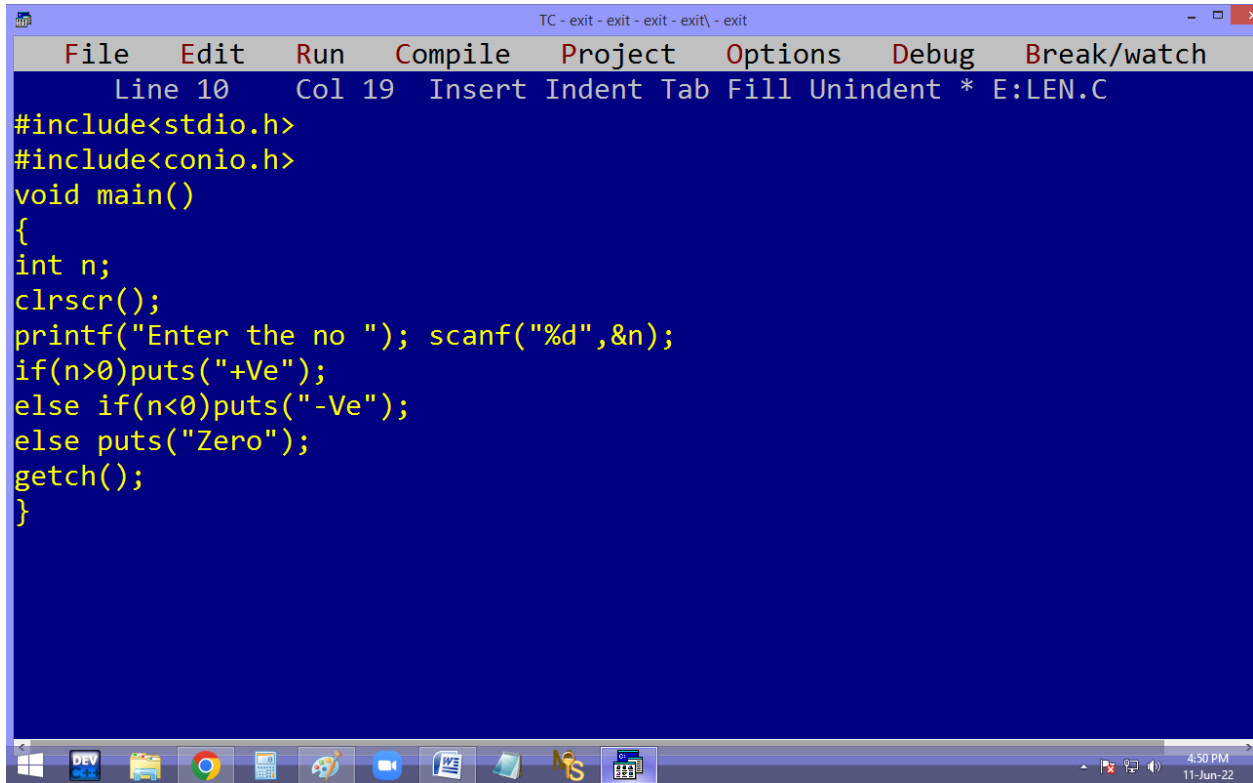


```
TC - exit - exit - exit - exit\ - exit
Enter a, b, c values 2 1 2
a & c are big
_
```

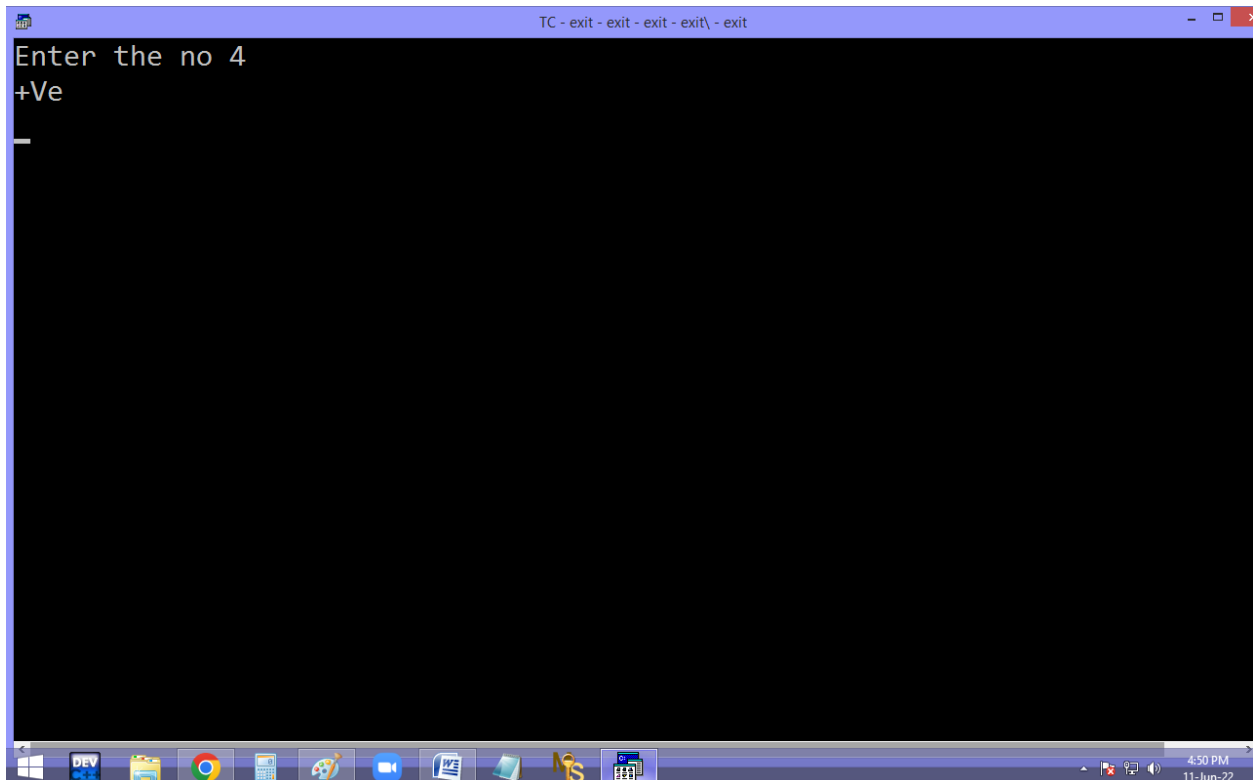
```
TC - exit - exit - exit - exit\ - exit
Enter a, b, c values 3 3 3
all are equal
```

```
TC - exit - exit - exit - exit\ - exit
Enter a, b, c values 5 2 4
a is big
_
```

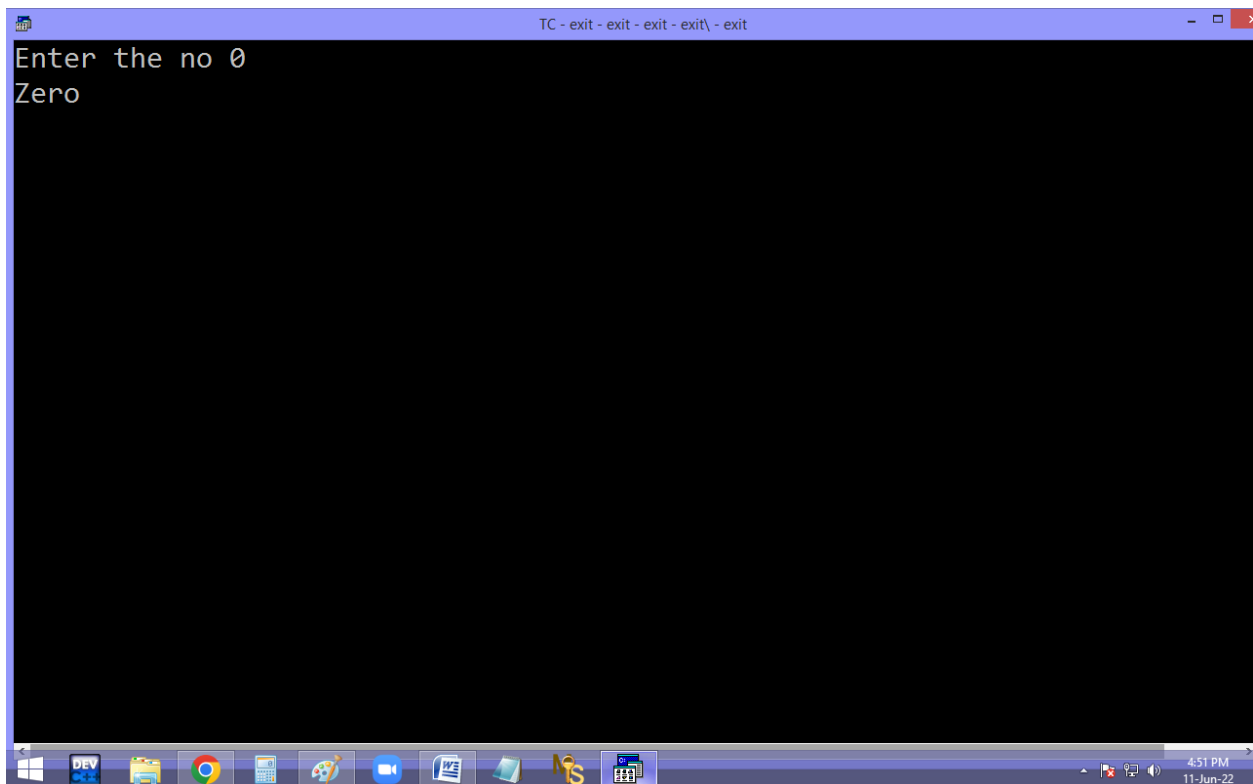
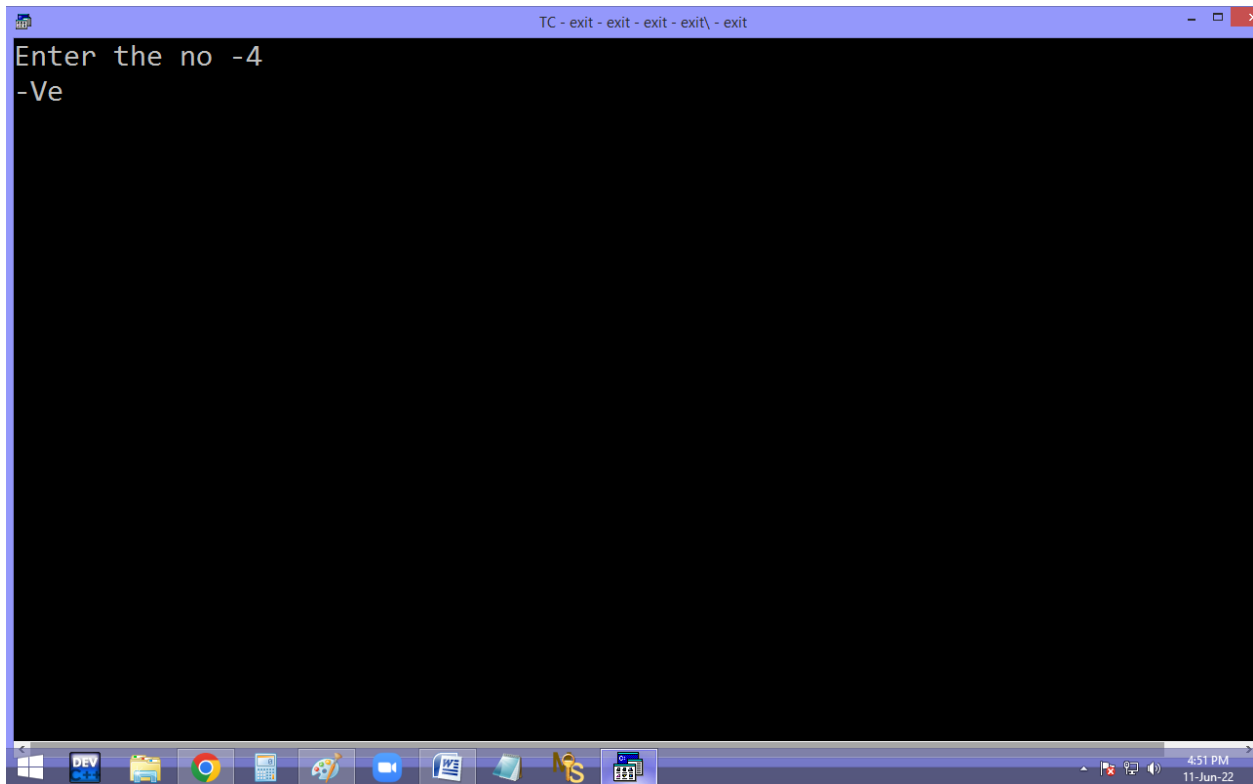
Eg. finding +Ve / -Ve / Zero.



```
TC - exit - exit - exit - exit\ - exit
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 19 Insert Indent Tab Fill Unindent * E:LEN.C
#include<stdio.h>
#include<conio.h>
void main()
{
int n;
clrscr();
printf("Enter the no "); scanf("%d",&n);
if(n>0)puts("+Ve");
else if(n<0)puts("-Ve");
else puts("Zero");
getch();
}
```



```
TC - exit - exit - exit - exit\ - exit
Enter the no 4
+Ve
```



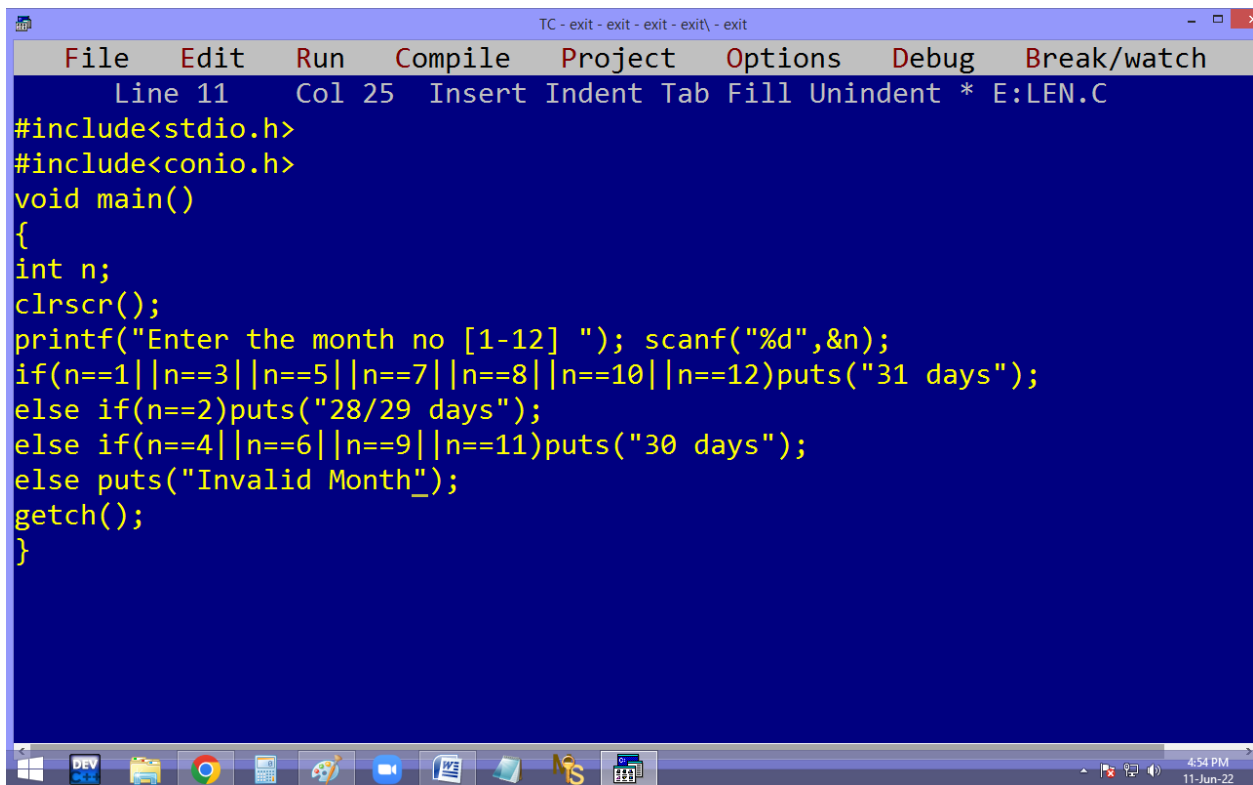
Eg. read month no and find the no of days in that month.

1,3,5,7,8,10,12 – 31 days

4,6,9,11 – 30 days

2 – 28/29 days

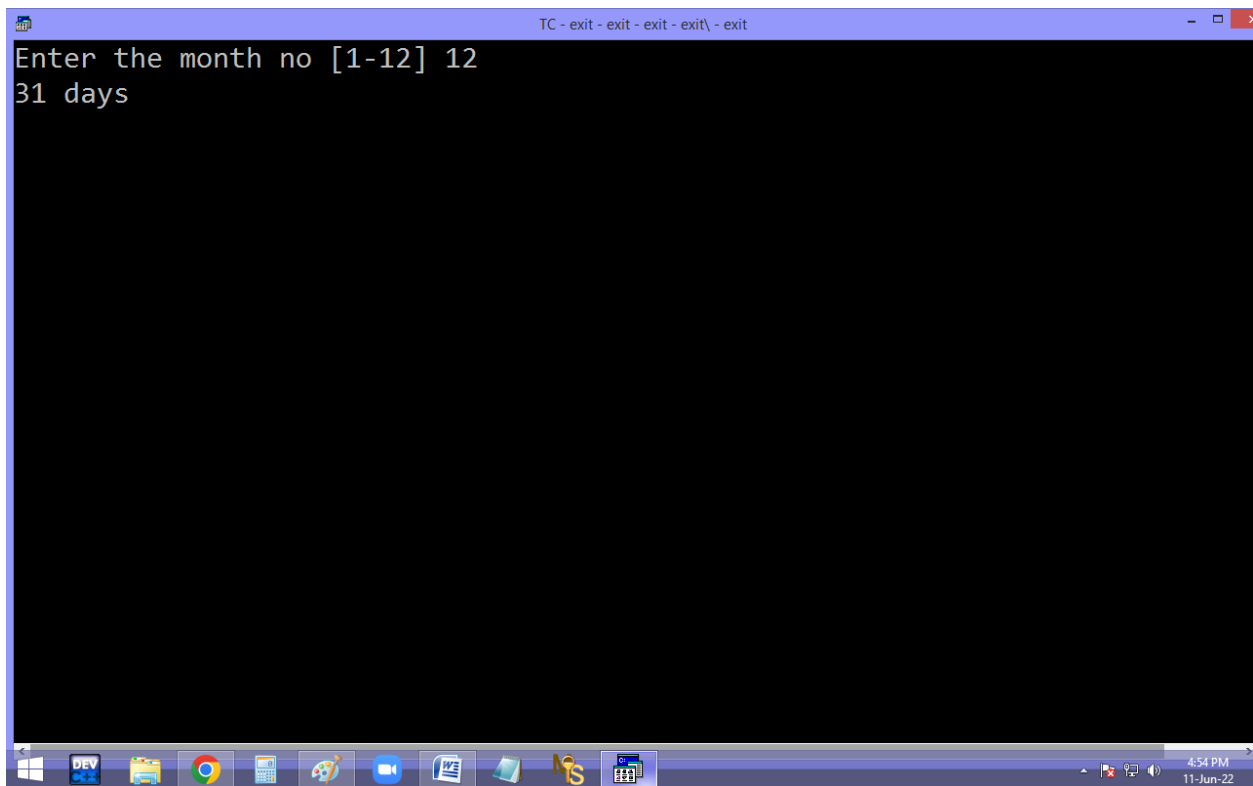
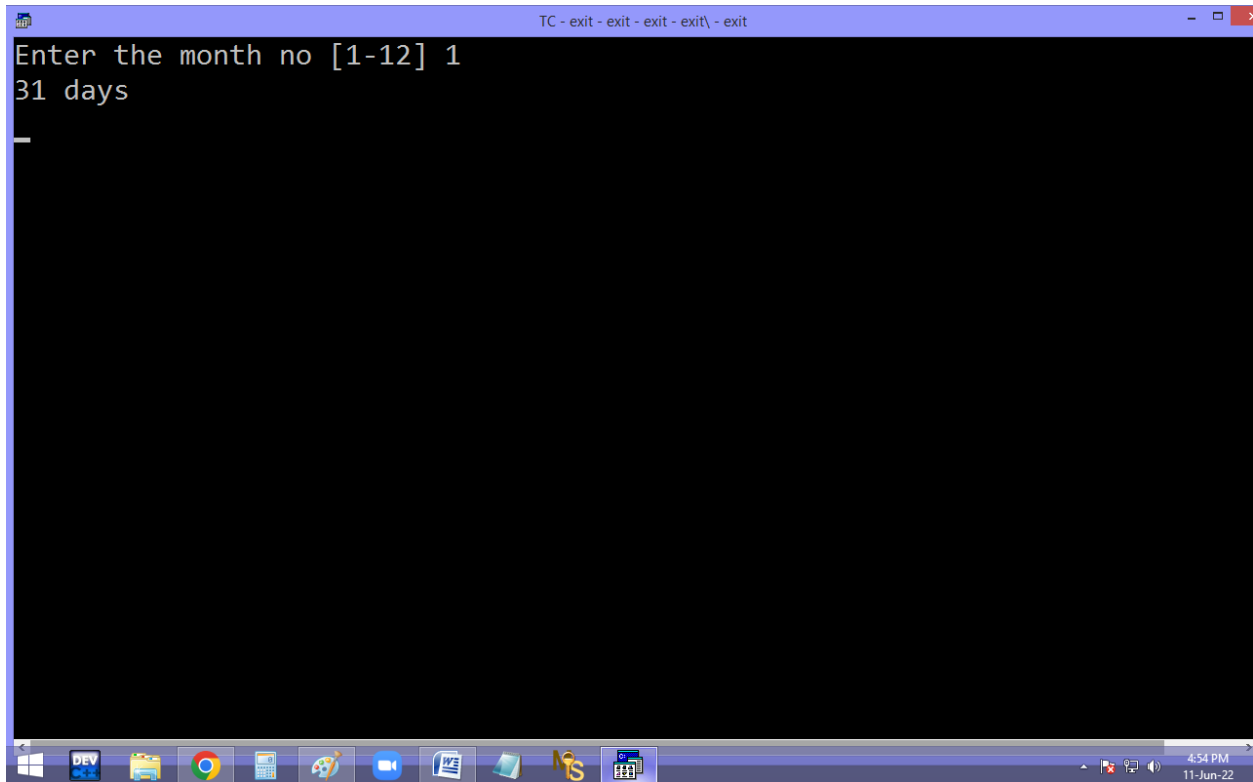
Others - invalid

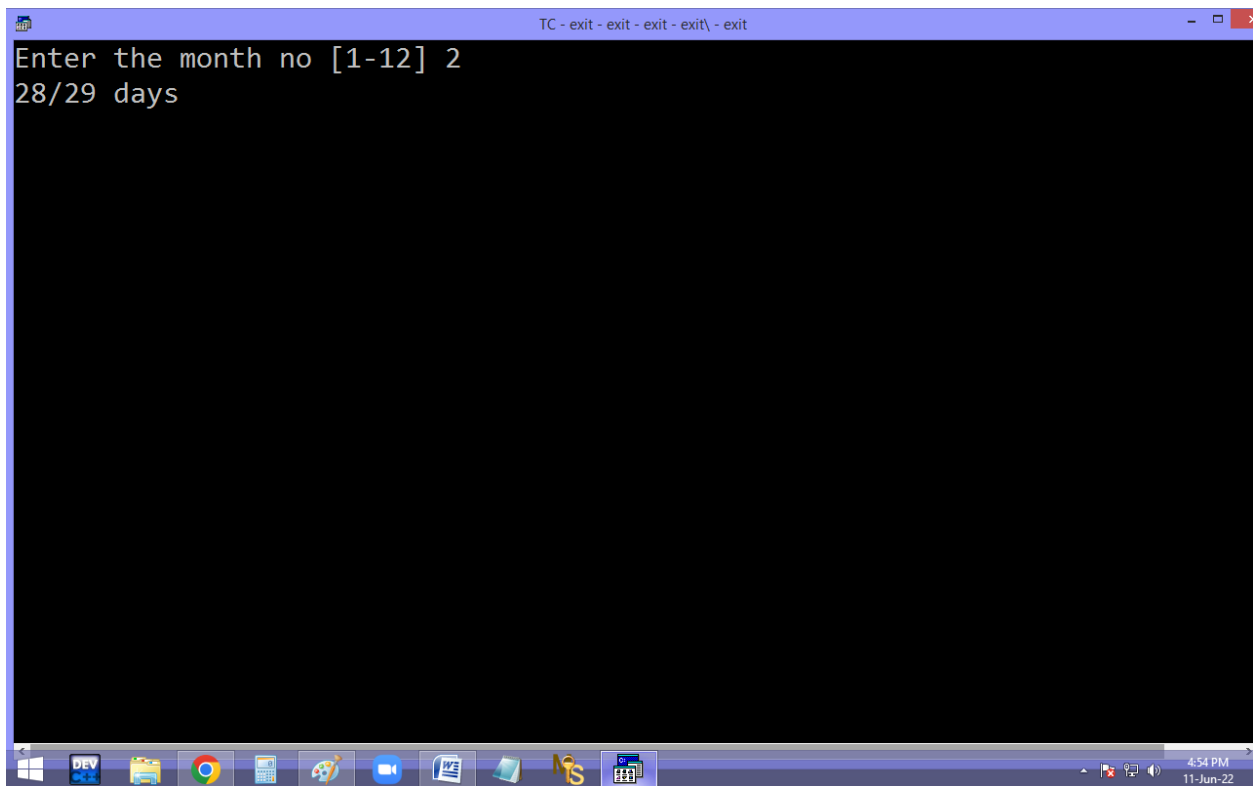
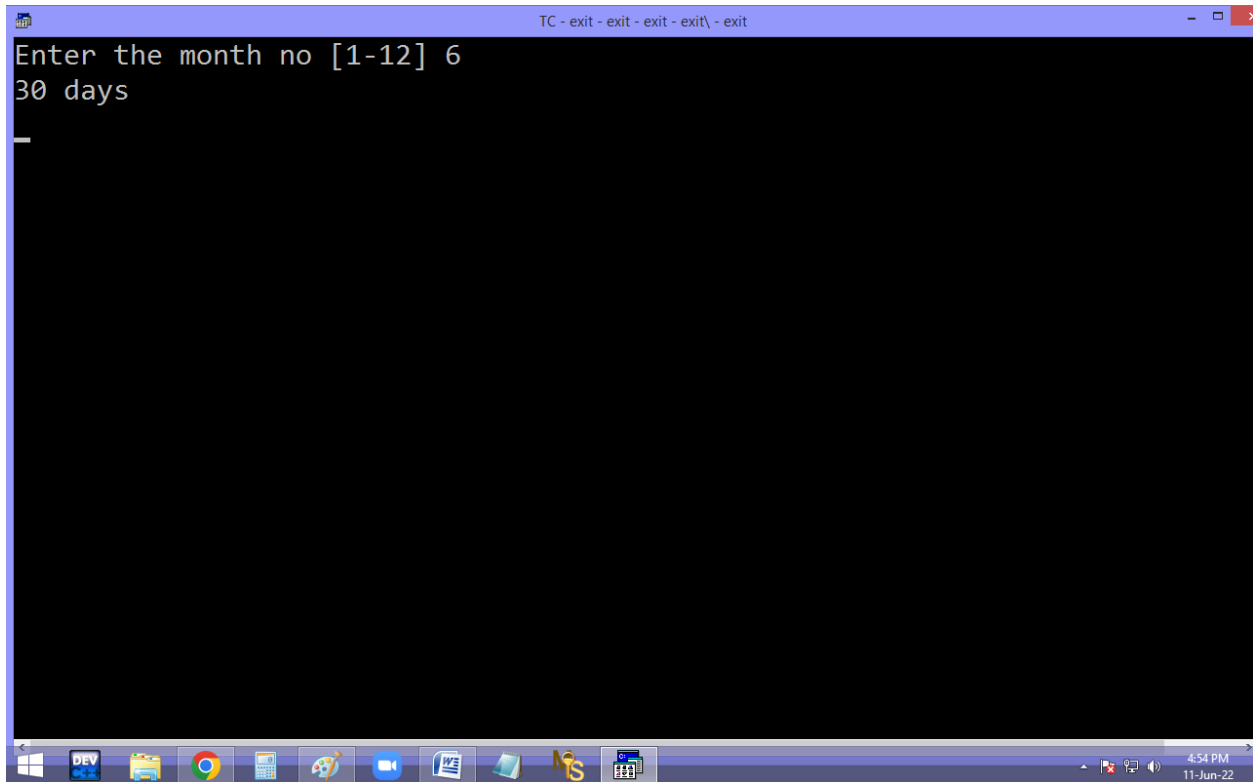


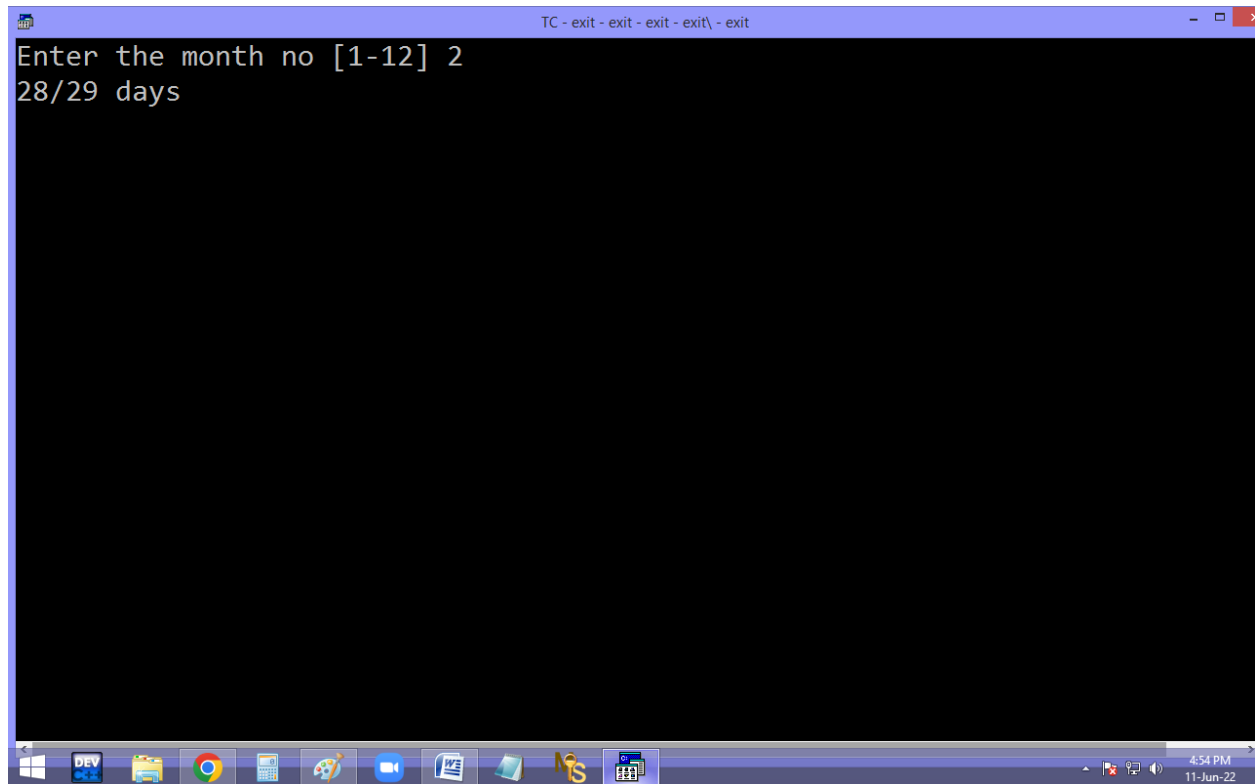
The screenshot shows a Turbo C++ IDE window titled "TC - exit - exit - exit - exit\ - exit". The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the top indicates "Line 11 Col 25 Insert Indent Tab Fill Unindent * E:LEN.C". The code in the editor is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int n;
clrscr();
printf("Enter the month no [1-12] "); scanf("%d",&n);
if(n==1||n==3||n==5||n==7||n==8||n==10||n==12)puts("31 days");
else if(n==2)puts("28/29 days");
else if(n==4||n==6||n==9||n==11)puts("30 days");
else puts("Invalid Month_");
getch();
}
```

The Windows taskbar at the bottom shows the Start button and several application icons, including DEV, File Explorer, Google Chrome, Calculator, Paint, and others. The system clock in the bottom right corner displays "4:54 PM" and "11-Jun-22".



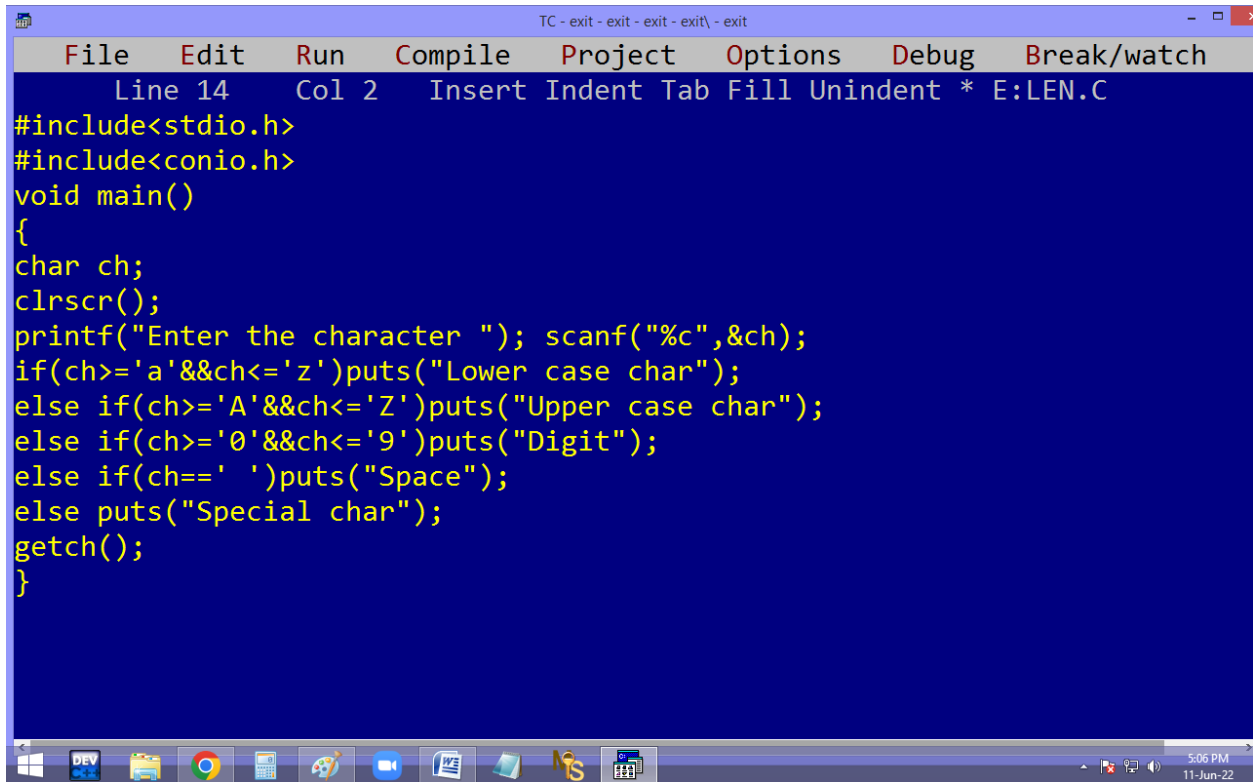




The image shows a Windows 10 desktop environment. A terminal window titled "TC - exit - exit - exit - exit\ - exit" is open, displaying the output of a C program. The program prompts the user to "Enter the month no [1-12]" and the user has entered "2". The program then outputs "28/29 days". The Windows taskbar at the bottom shows various application icons including DEV, File Explorer, Chrome, Calculator, Paint, Edge, Word, and a folder named "NS". The system tray on the right indicates the time is 4:54 PM on 11-Jun-22.

```
TC - exit - exit - exit - exit\ - exit
Enter the month no [1-12] 2
28/29 days
```

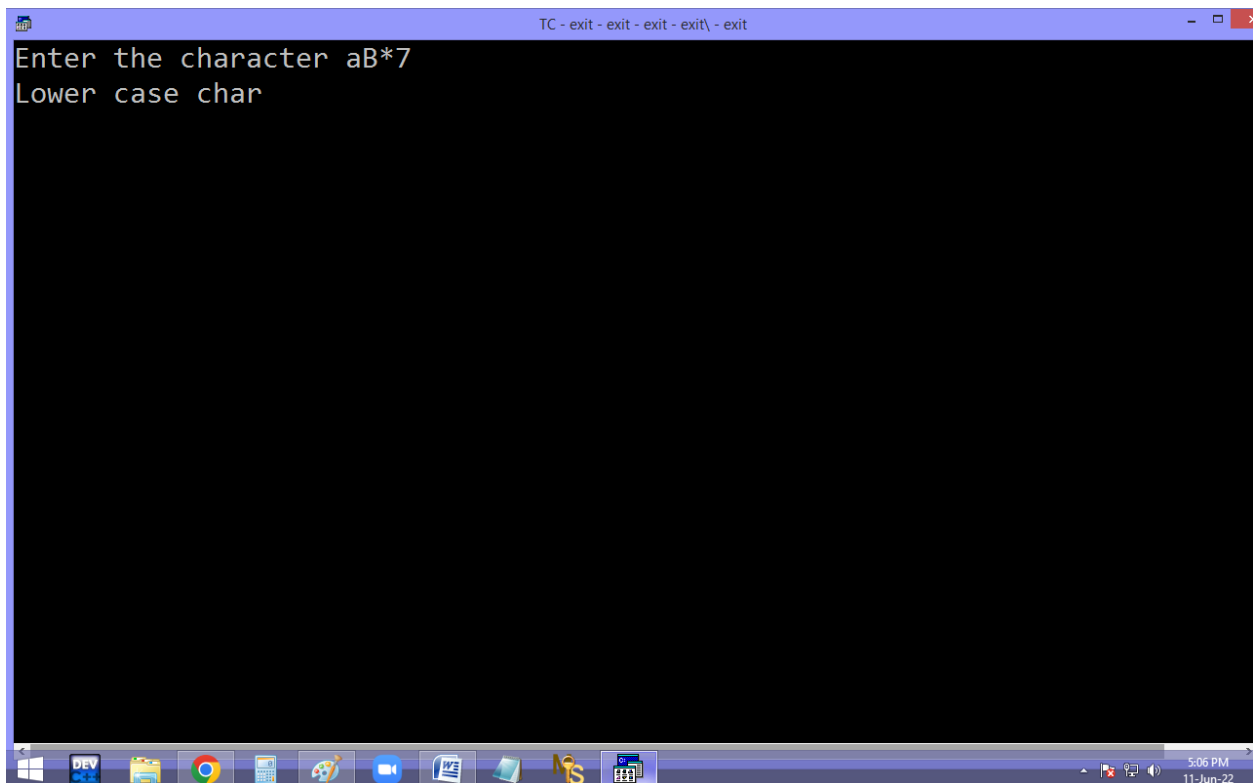
Eg. Finding lower / upper / special char / space / digit.



The screenshot shows the Turbo C++ IDE with a menu bar (File, Edit, Run, Compile, Project, Options, Debug, Break/watch) and a status bar (Line 14, Col 2, Insert, Indent, Tab, Fill, Unindent, * E:LEN.C). The code in the editor is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
char ch;
clrscr();
printf("Enter the character "); scanf("%c",&ch);
if(ch>='a'&&ch<='z')puts("Lower case char");
else if(ch>='A'&&ch<='Z')puts("Upper case char");
else if(ch>='0'&&ch<='9')puts("Digit");
else if(ch==' ')puts("Space");
else puts("Special char");
getch();
}
```

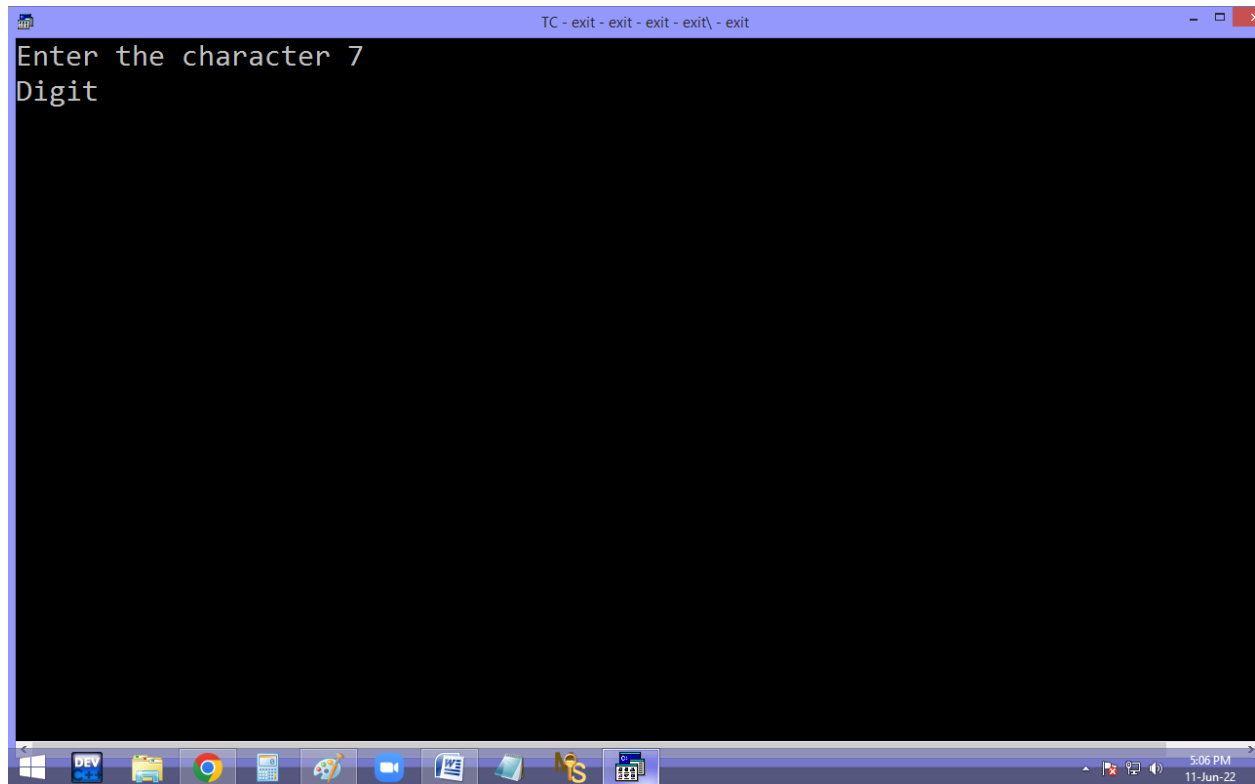
The Windows taskbar at the bottom shows the Start button and several application icons, including DEV, File Explorer, Chrome, Calculator, Paint, and others. The system clock indicates 5:06 PM on 11-Jun-22.



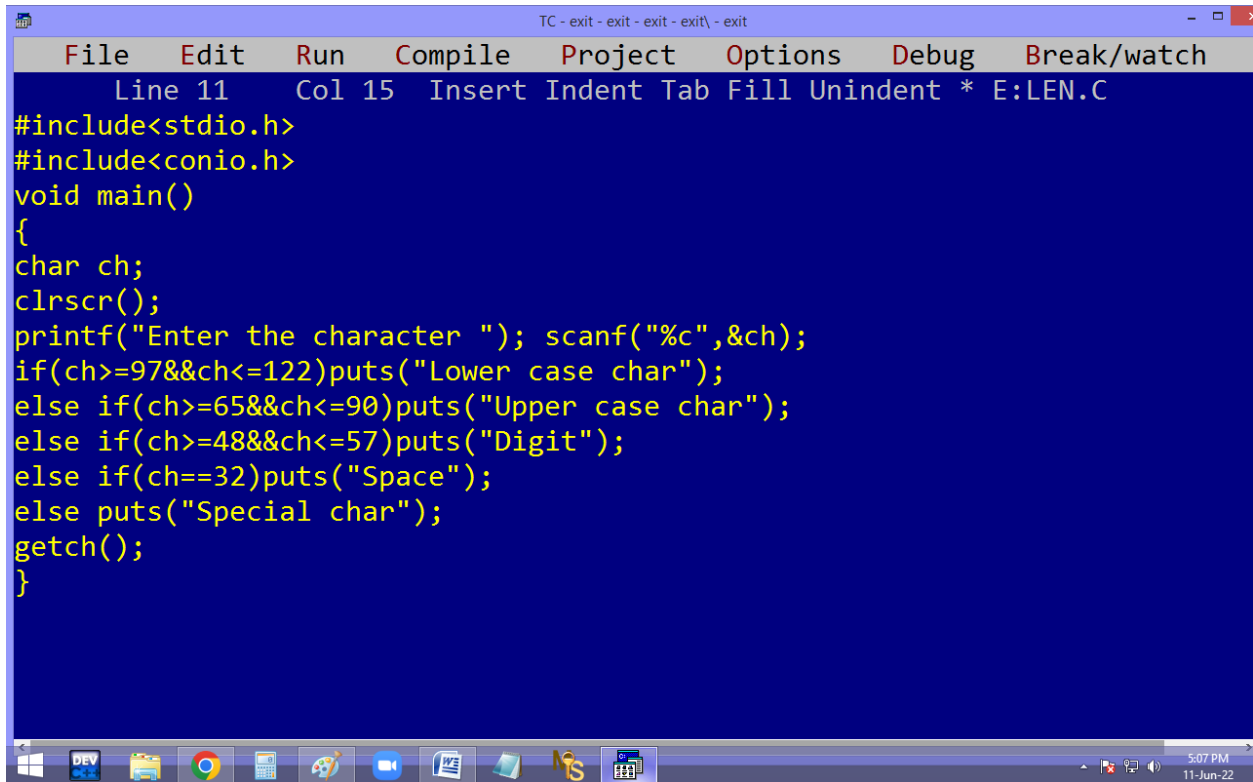
The screenshot shows the Turbo C++ IDE with the same menu bar and status bar as the first image. The output window displays the program's execution results:

```
Enter the character aB*7
Lower case char
```

The Windows taskbar at the bottom is identical to the first image, showing the same application icons and system clock (5:06 PM on 11-Jun-22).



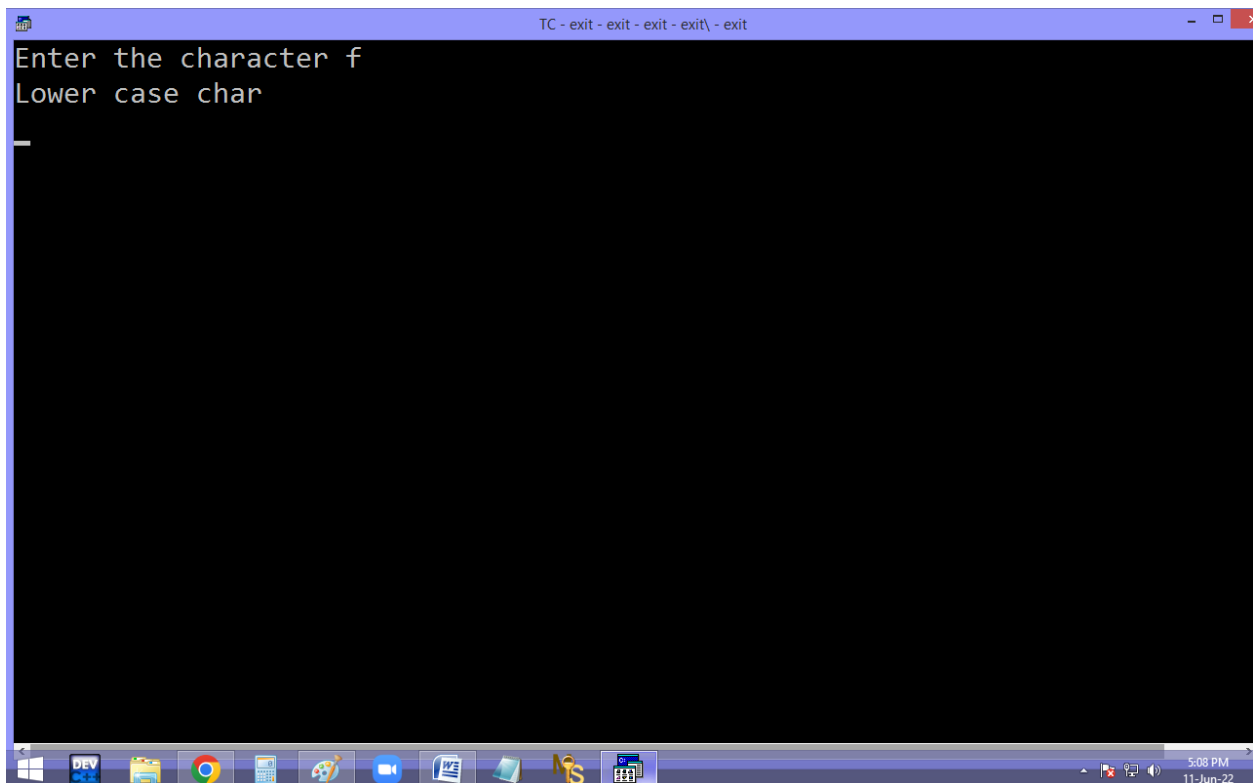
Using ascii values:



The screenshot shows the Turbo C++ IDE with a menu bar (File, Edit, Run, Compile, Project, Options, Debug, Break/watch) and a status bar (Line 11, Col 15, Insert, Indent, Tab, Fill, Unindent, * E:LEN.C). The code in the editor is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
char ch;
clrscr();
printf("Enter the character "); scanf("%c",&ch);
if(ch>=97&&ch<=122)puts("Lower case char");
else if(ch>=65&&ch<=90)puts("Upper case char");
else if(ch>=48&&ch<=57)puts("Digit");
else if(ch==32)puts("Space");
else puts("Special char");
getch();
}
```

The Windows taskbar at the bottom shows icons for Windows, DEV C++, File Explorer, Google Chrome, Calculator, Paint, VLC, Word, and a folder named 'NS'. The system clock indicates 5:07 PM on 11-Jun-22.

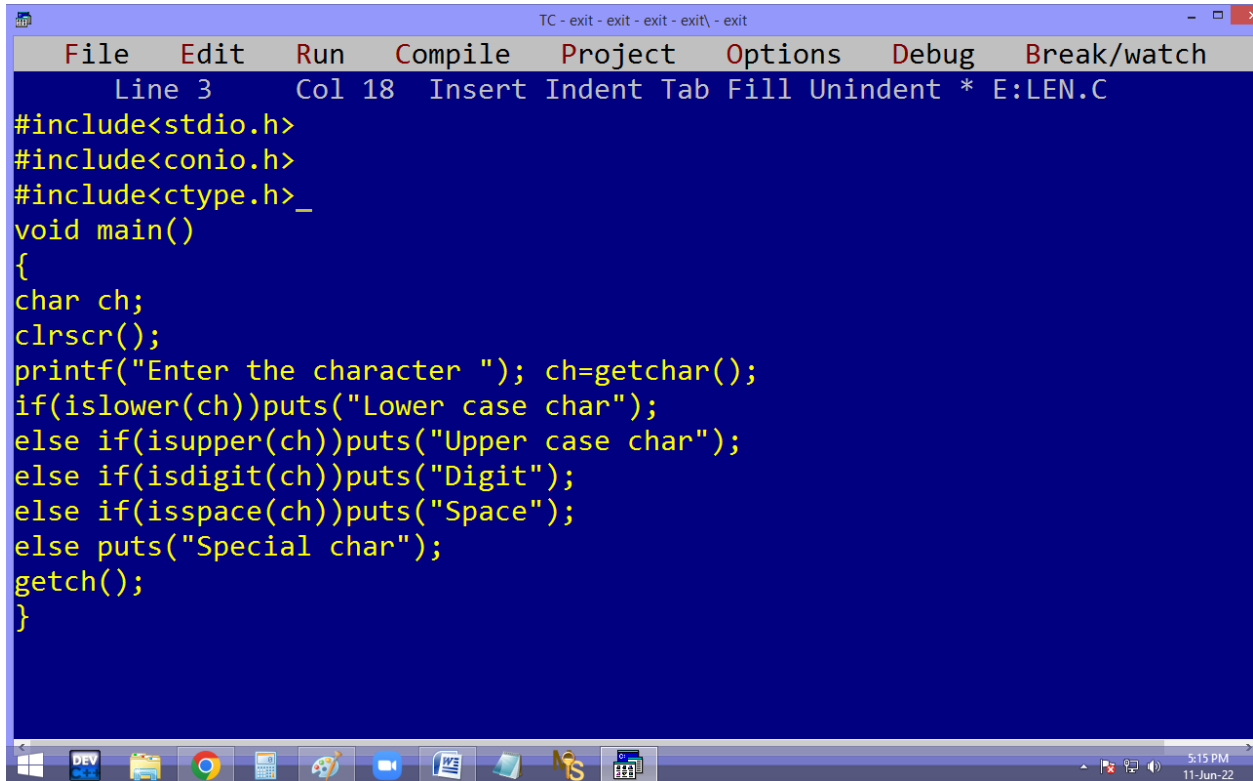


The screenshot shows the Turbo C++ IDE with the same menu bar and status bar. The output window displays the program's execution results:

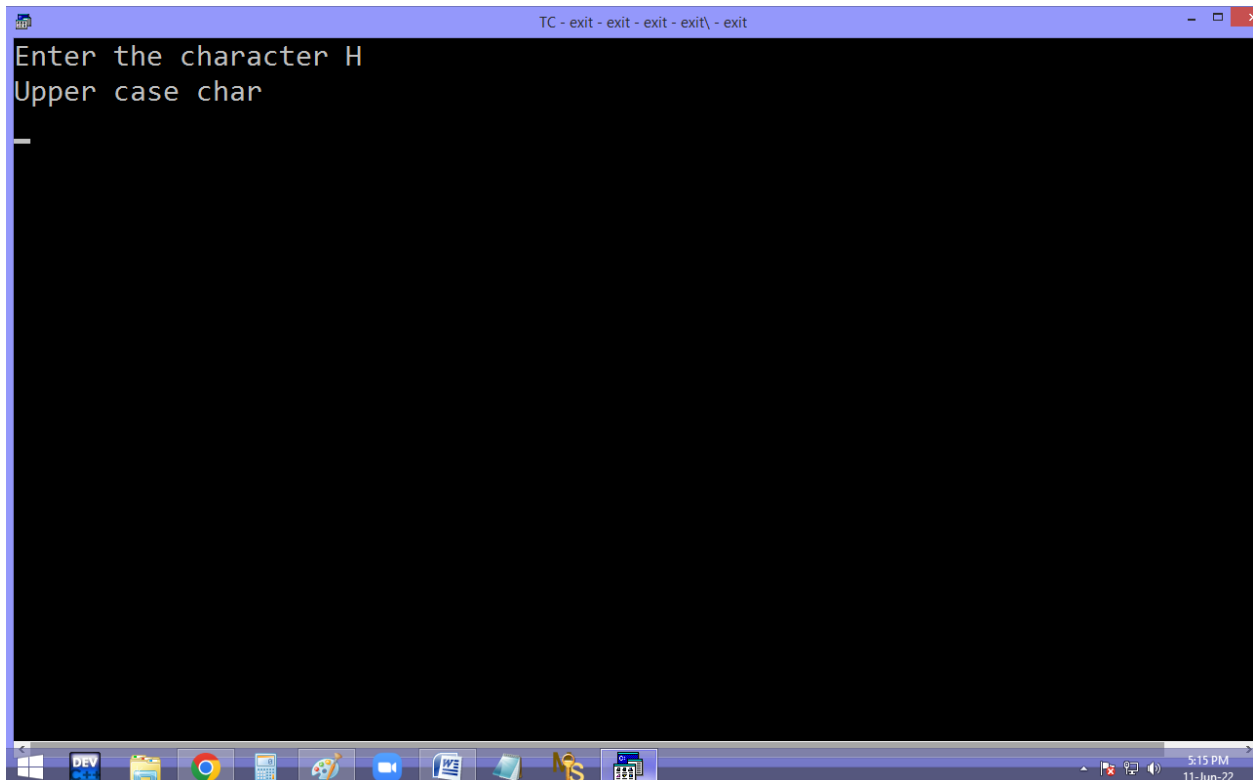
```
Enter the character f
Lower case char
```

The Windows taskbar at the bottom is identical to the first screenshot, showing the same icons and system clock (5:08 PM on 11-Jun-22).

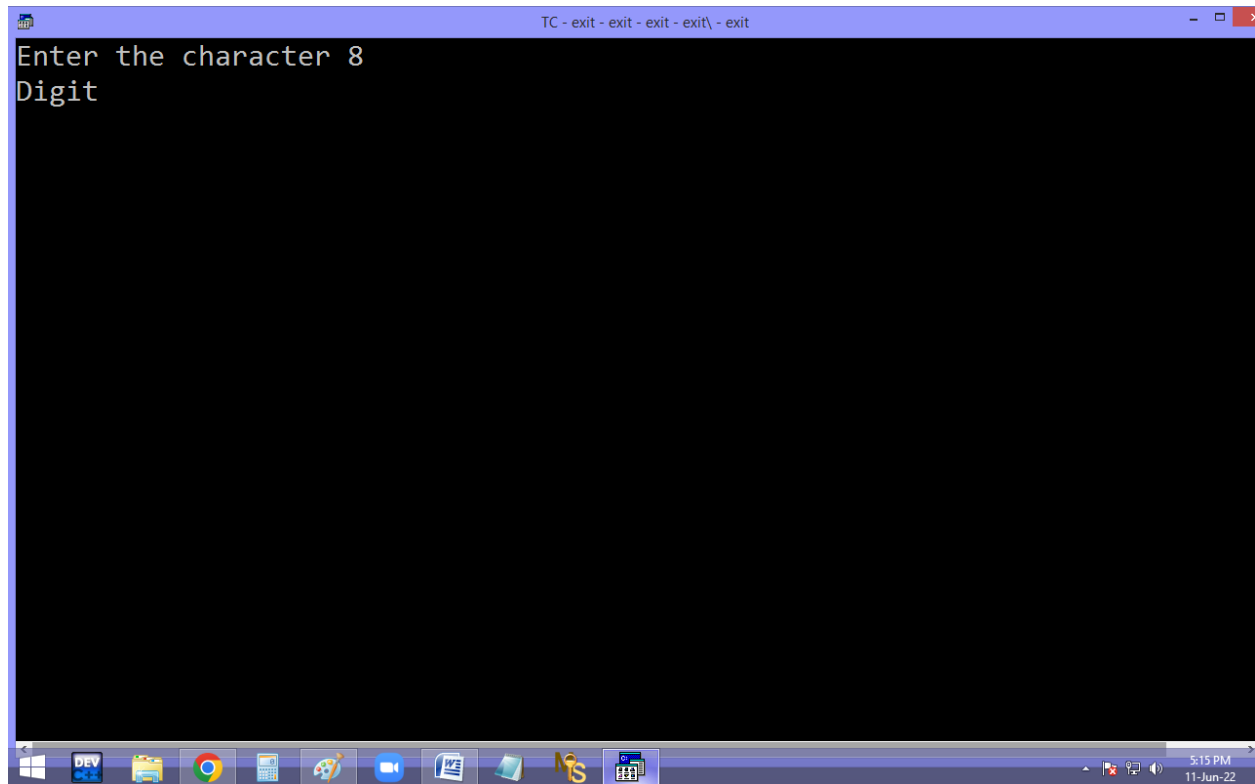
Using predefined functions:



```
TC - exit - exit - exit - exit\ - exit
File Edit Run Compile Project Options Debug Break/watch
Line 3 Col 18 Insert Indent Tab Fill Unindent * E:LEN.C
#include<stdio.h>
#include<conio.h>
#include<ctype.h>_
void main()
{
char ch;
clrscr();
printf("Enter the character "); ch=getchar();
if(islower(ch))puts("Lower case char");
else if(isupper(ch))puts("Upper case char");
else if(isdigit(ch))puts("Digit");
else if(isspace(ch))puts("Space");
else puts("Special char");
getch();
}
```

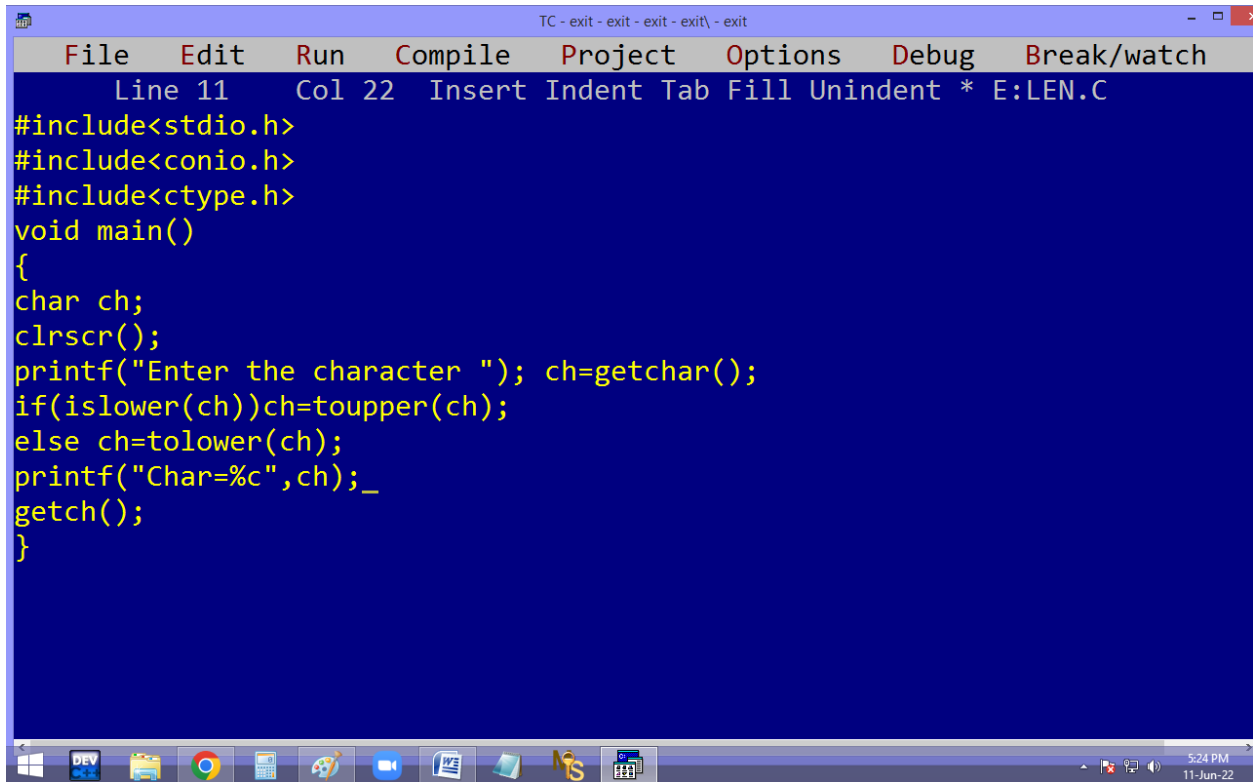


```
TC - exit - exit - exit - exit\ - exit
Enter the character H
Upper case char
_
```



Eg. lower to upper / upper to lower conversion:

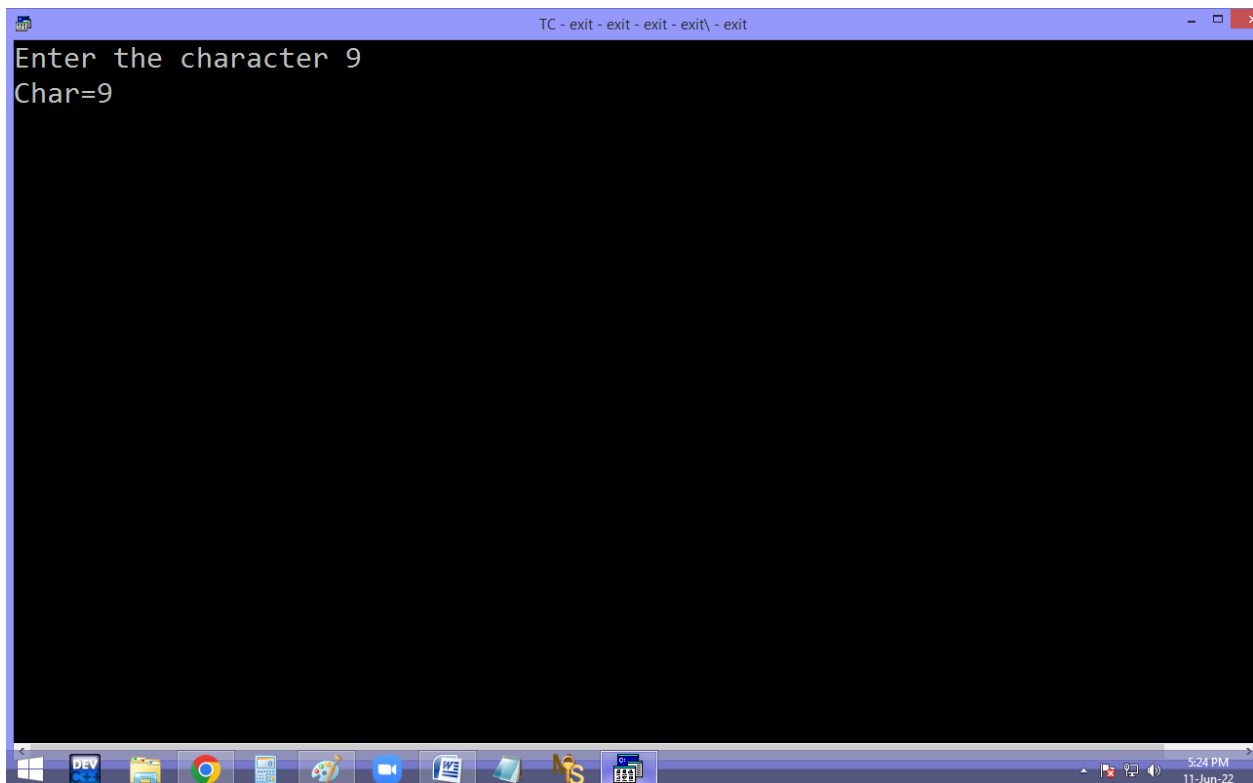
[using predefined functions]



The screenshot shows the Turbo C++ IDE with a menu bar (File, Edit, Run, Compile, Project, Options, Debug, Break/watch) and a status bar (Line 11, Col 22, Insert, Indent, Tab, Fill, Unindent, * E:LEN.C). The code in the editor is as follows:

```
#include<stdio.h>
#include<conio.h>
#include<ctype.h>
void main()
{
char ch;
clrscr();
printf("Enter the character "); ch=getchar();
if(islower(ch))ch=toupper(ch);
else ch=tolower(ch);
printf("Char=%c",ch);_
getch();
}
```

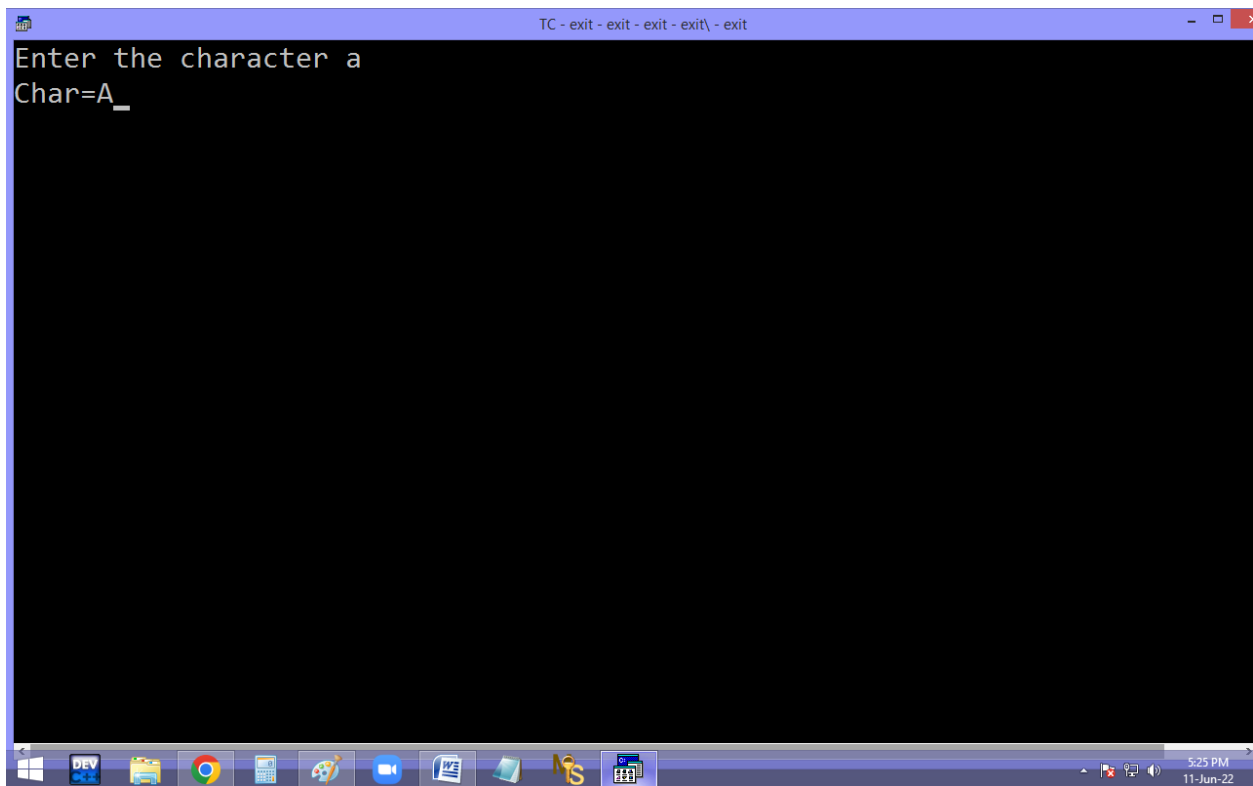
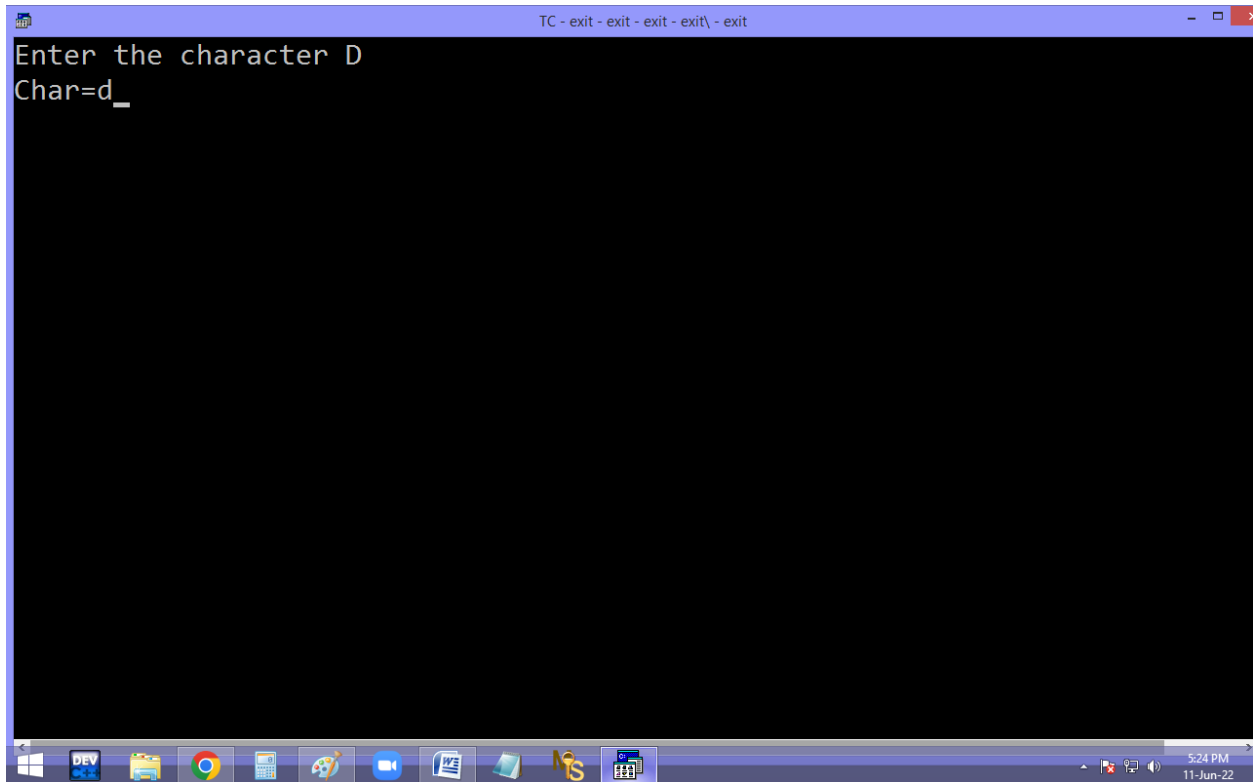
The Windows taskbar at the bottom shows icons for Windows, DEV, File Explorer, Google Chrome, Calculator, Paint, VLC, Word, and a folder named 'NS'. The system clock indicates 5:24 PM on 11-Jun-22.



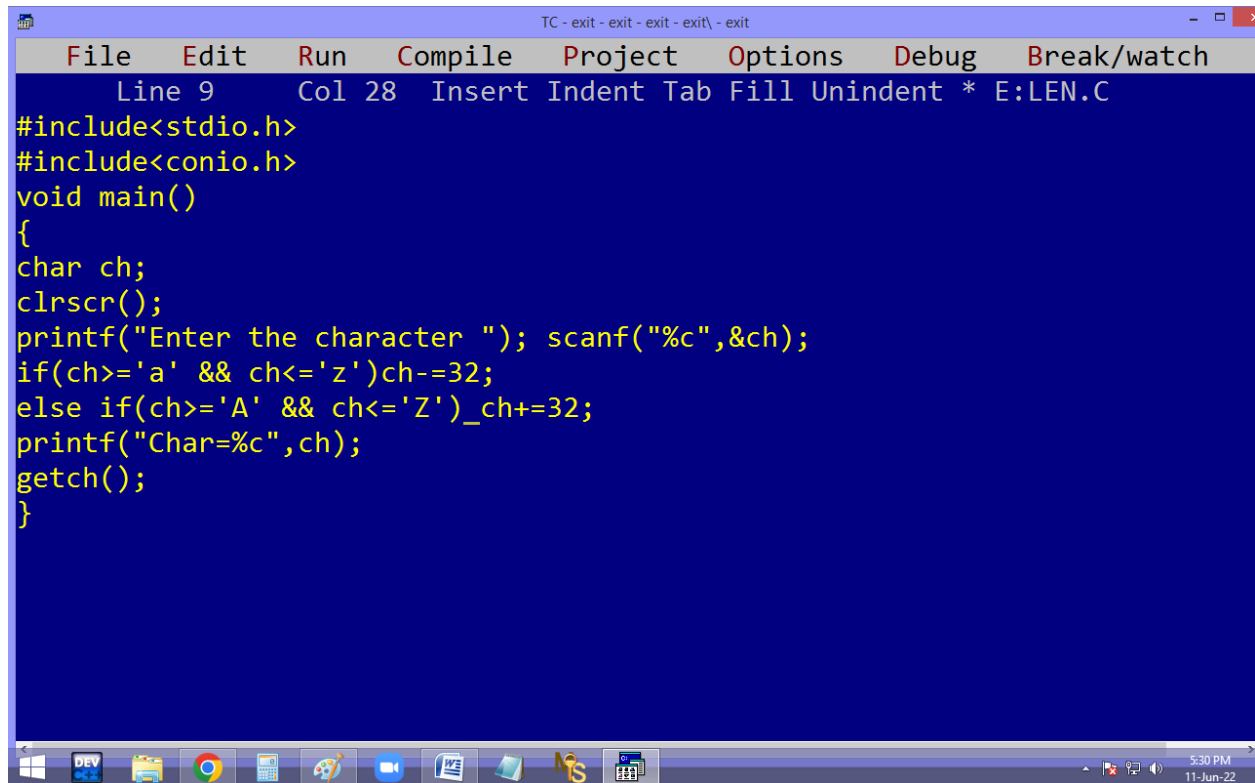
The screenshot shows the Turbo C++ IDE with the same menu bar and status bar. The output window displays the program's execution:

```
Enter the character 9
Char=9
```

The Windows taskbar at the bottom is identical to the first screenshot, showing the same icons and system clock (5:24 PM on 11-Jun-22).



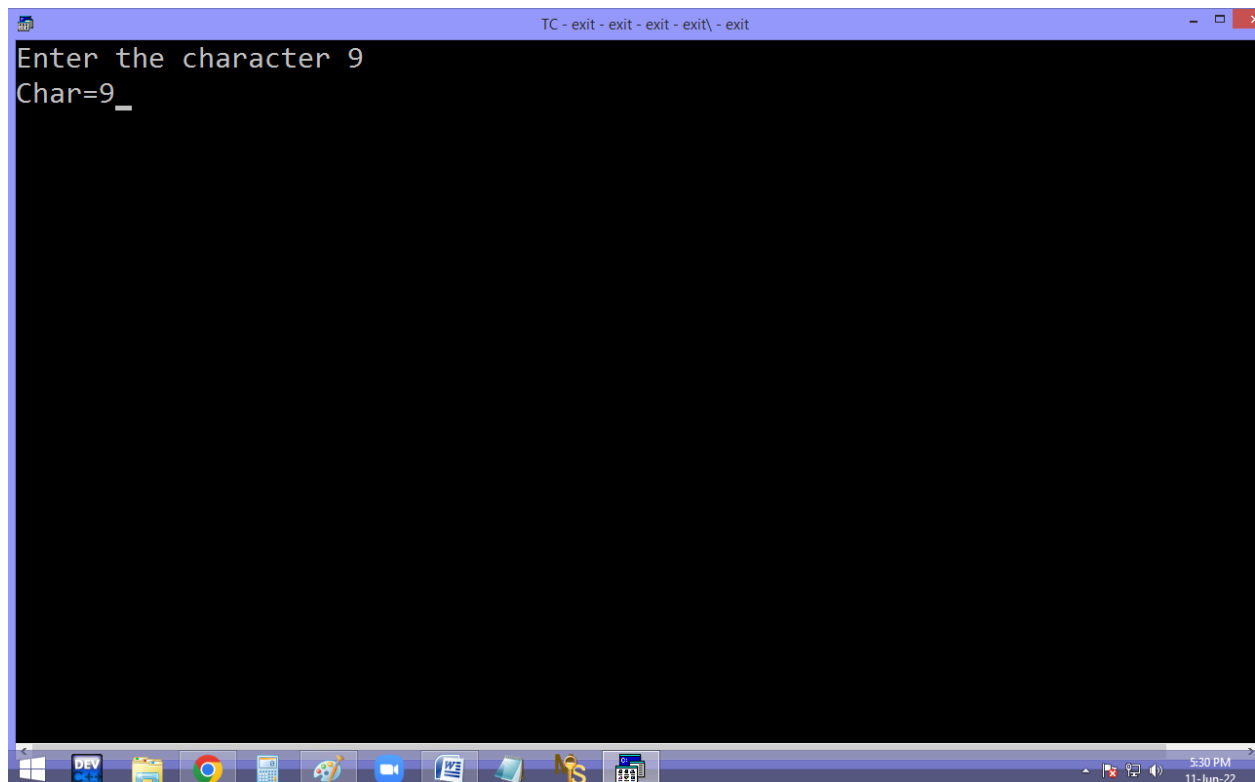
Using user defined program:



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

```
TC - exit - exit - exit - exit\ - exit
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 28 Insert Indent Tab Fill Unindent * E:LEN.C
#include<stdio.h>
#include<conio.h>
void main()
{
char ch;
clrscr();
printf("Enter the character "); scanf("%c",&ch);
if(ch>='a' && ch<='z')ch-=32;
else if(ch>='A' && ch<='Z')_ch+=32;
printf("Char=%c",ch);
getch();
}
```

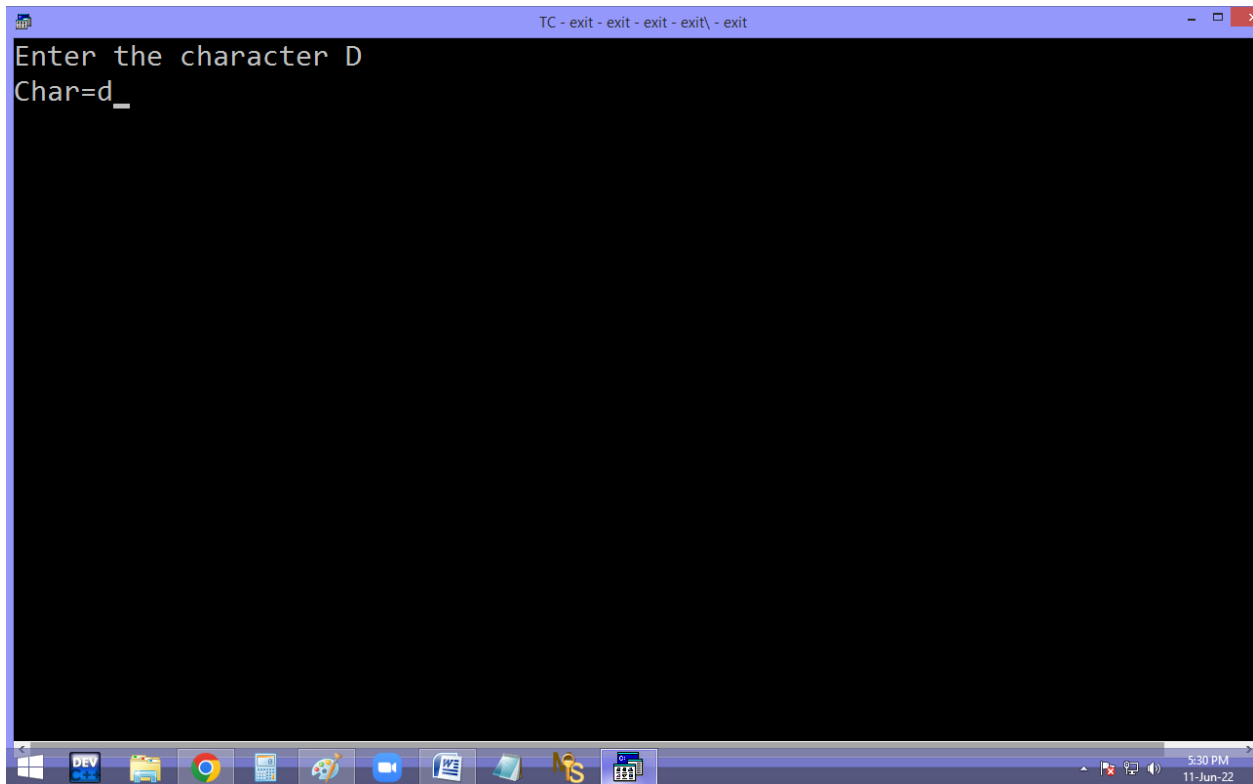
The taskbar at the bottom shows various application icons including DEV, File Explorer, Chrome, Calculator, and others. The system clock indicates 5:30 PM on 11-Jun-22.

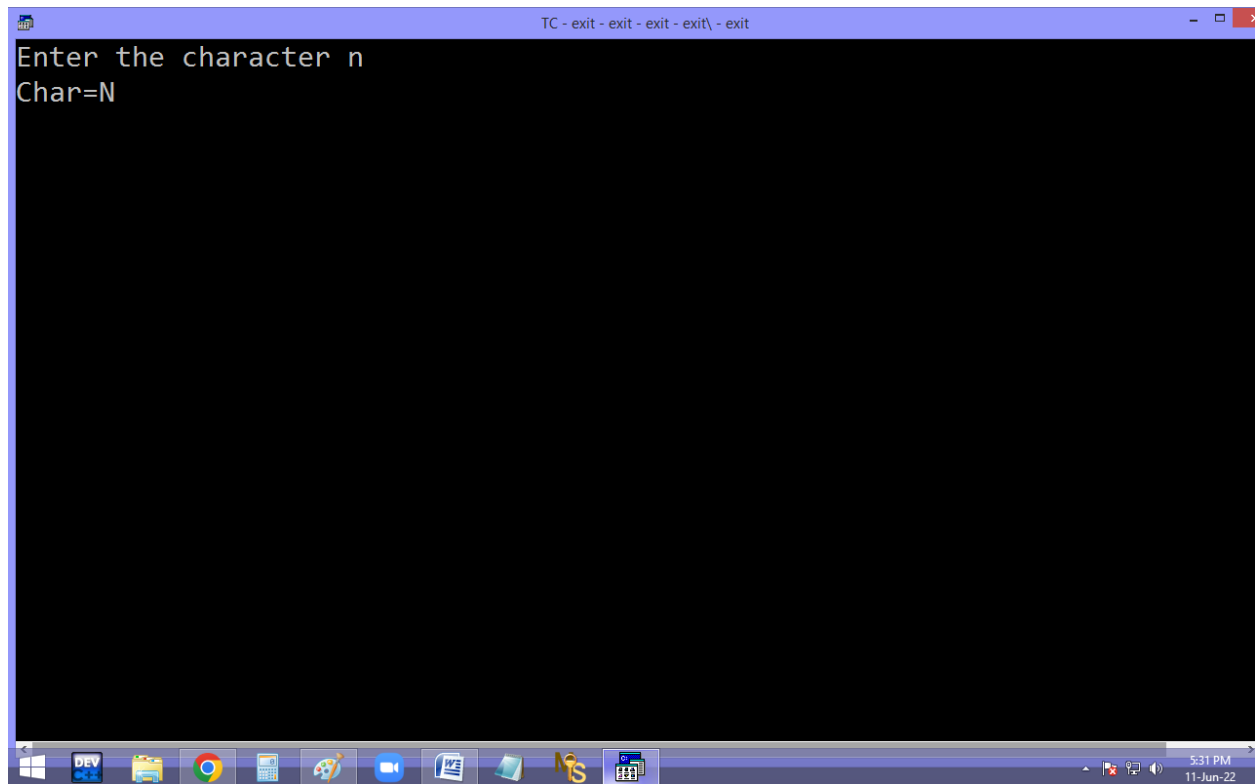


The screenshot shows the Turbo C++ IDE with the following output in the console:

```
TC - exit - exit - exit - exit\ - exit
Enter the character 9
Char=9_
```

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





$$\begin{array}{r} a = 97 \\ - 32 \\ \hline 65 = A \\ + 32 \\ \hline a = 97 \end{array}$$

Nested if: If within another if is called nested if.

