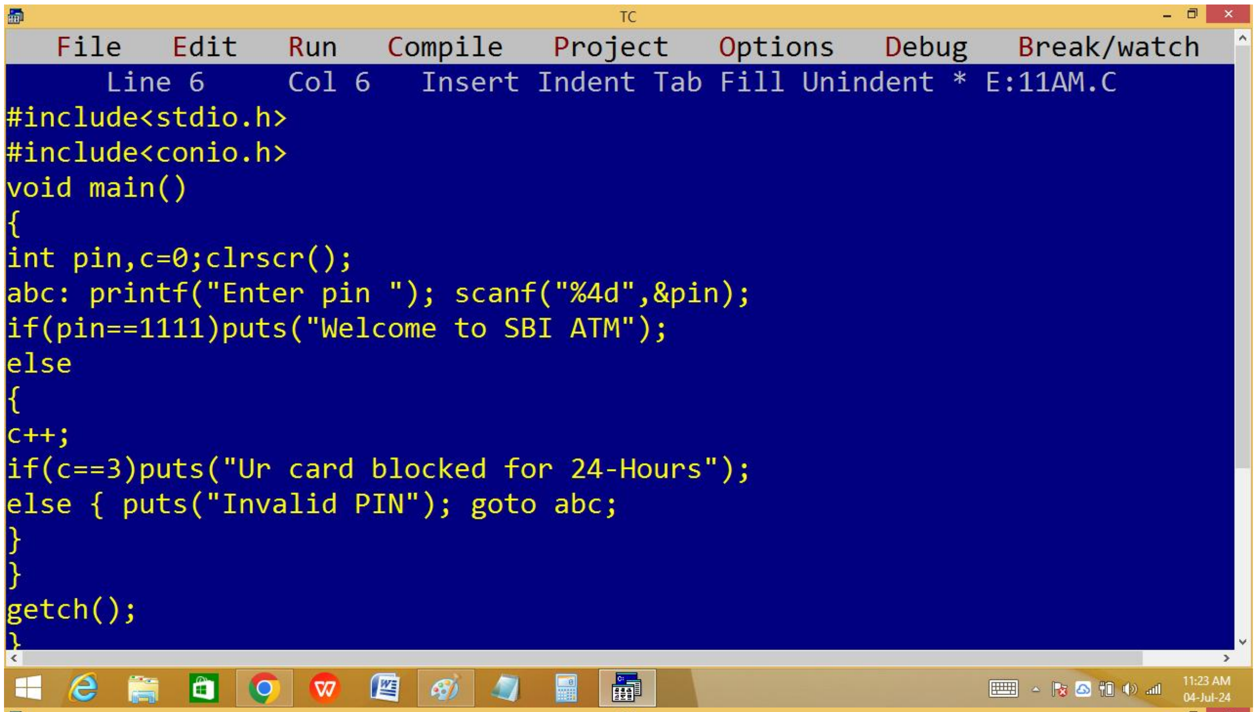
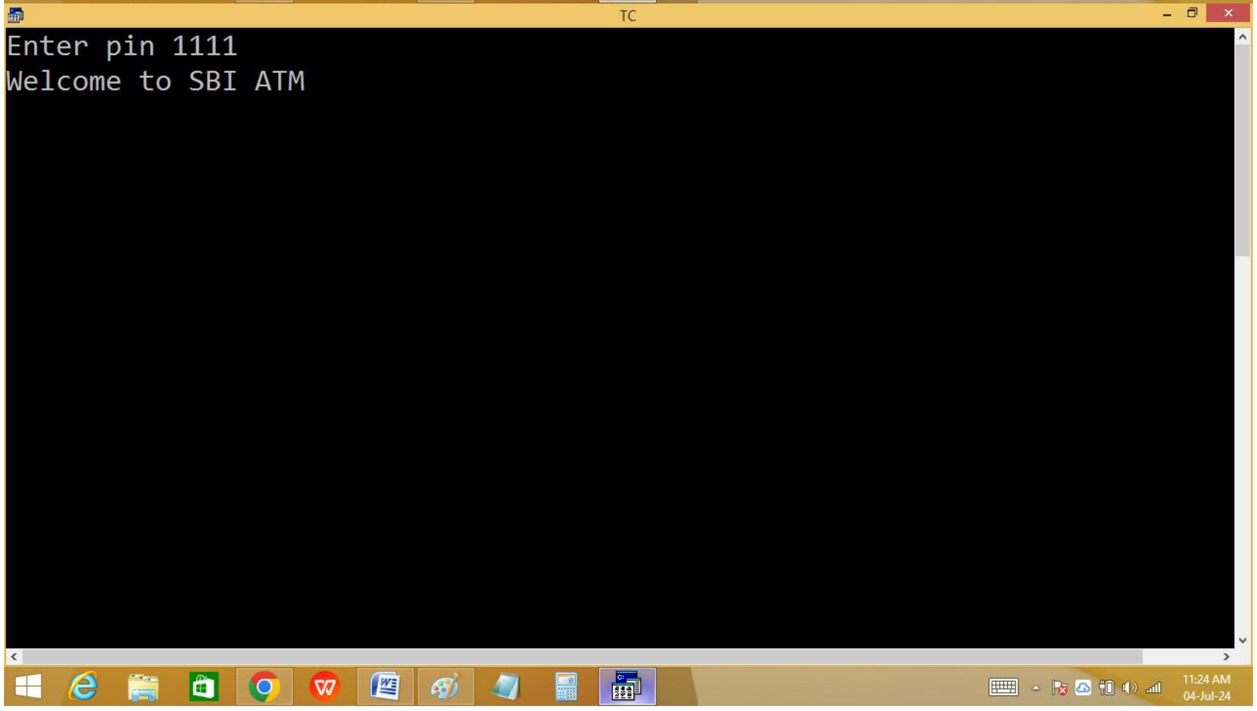
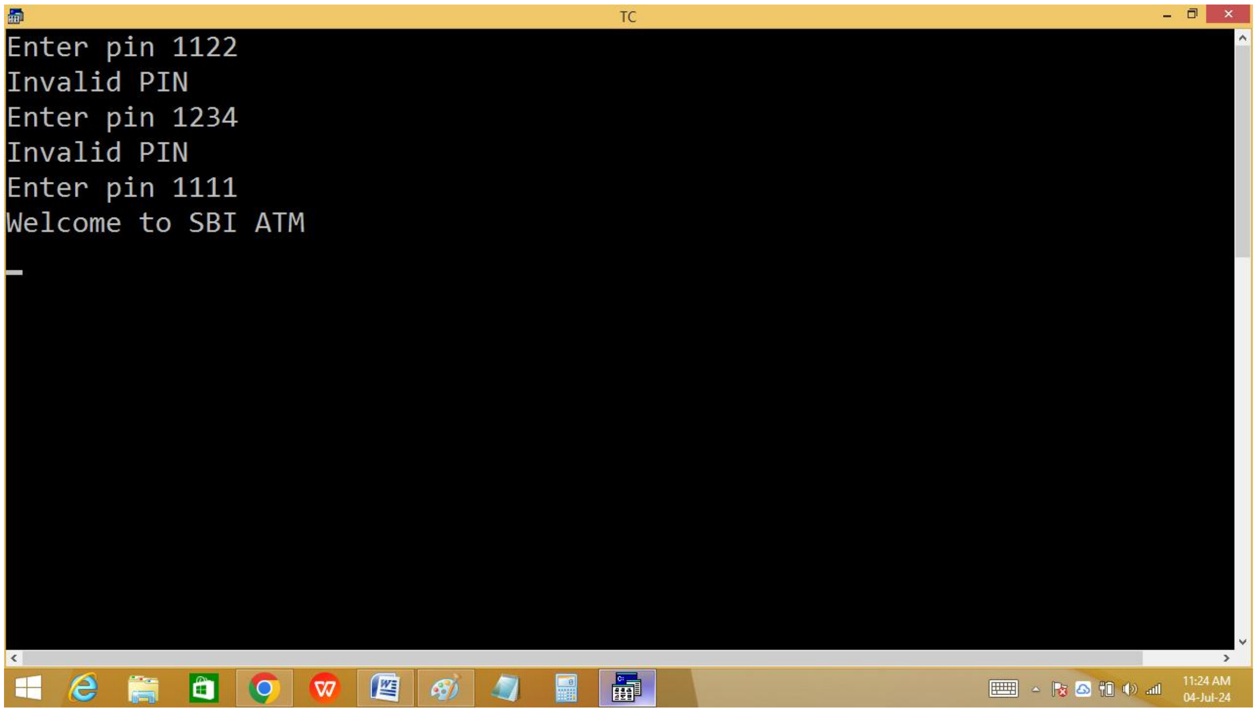
ATM Pin Validation:


TC
File Edit Run Compile Project Options Debug Break/watch
Line 6 Col 6 Insert Indent Tab Fill Unindent * E:11AM.C
11:23 AM
04-Jul-24

```c
#include<stdio.h>
#include<conio.h>
void main()
{
int pin,c=0;clrscr();
abc: printf("Enter pin "); scanf("%4d",&pin);
if(pin==1111)puts("Welcome to SBI ATM");
else
{
c++;
if(c==3)puts("Ur card blocked for 24-Hours");
else { puts("Invalid PIN"); goto abc;
}
}
getch();
}
```



```
Enter pin 1111
Welcome to SBI ATM
```



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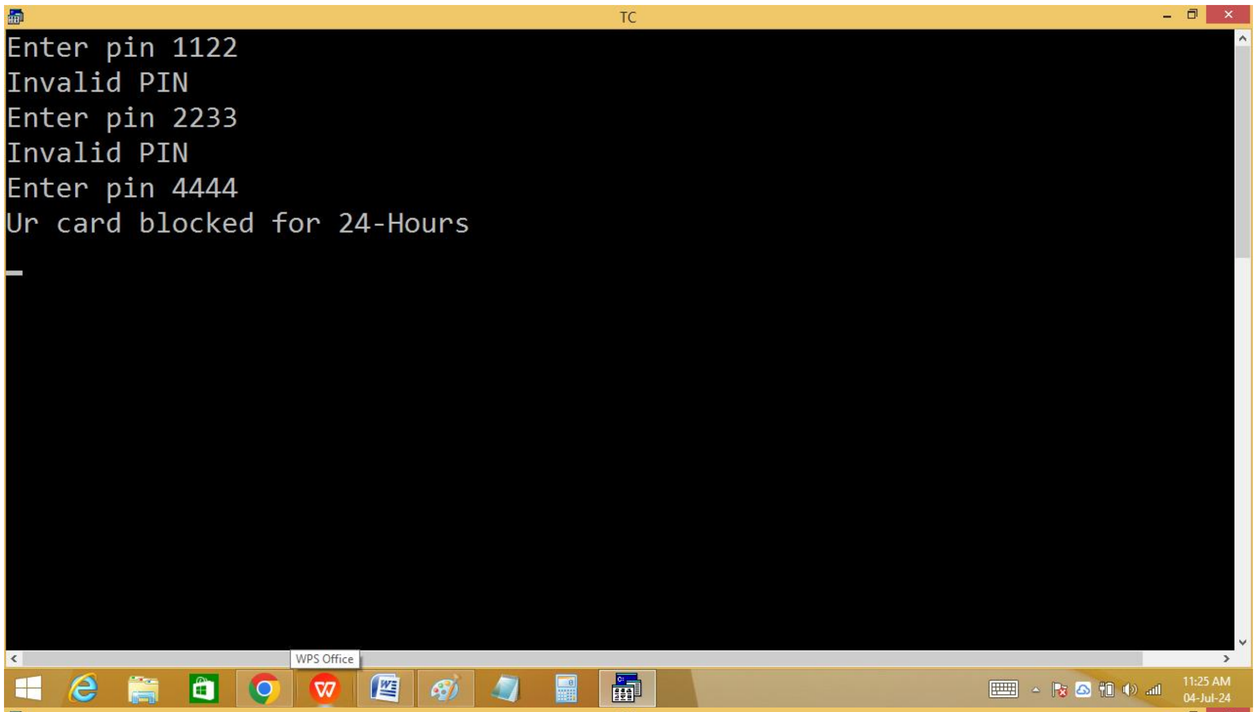
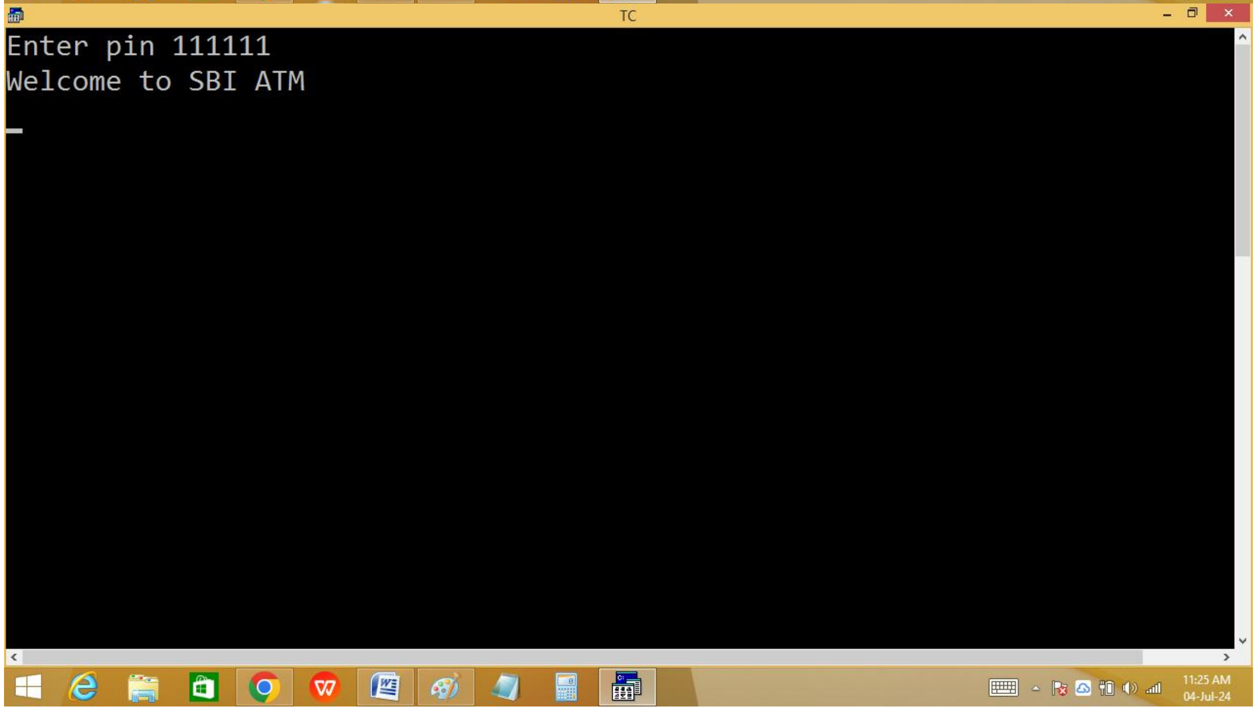
```
Enter pin 1122
Invalid PIN
Enter pin 1234
Invalid PIN
Enter pin 1111
Welcome to SBI ATM
```



```
Enter pin 1122
Invalid PIN
Enter pin 2233
Invalid PIN
Enter pin 4444
Ur card blocked for 24-Hours
```

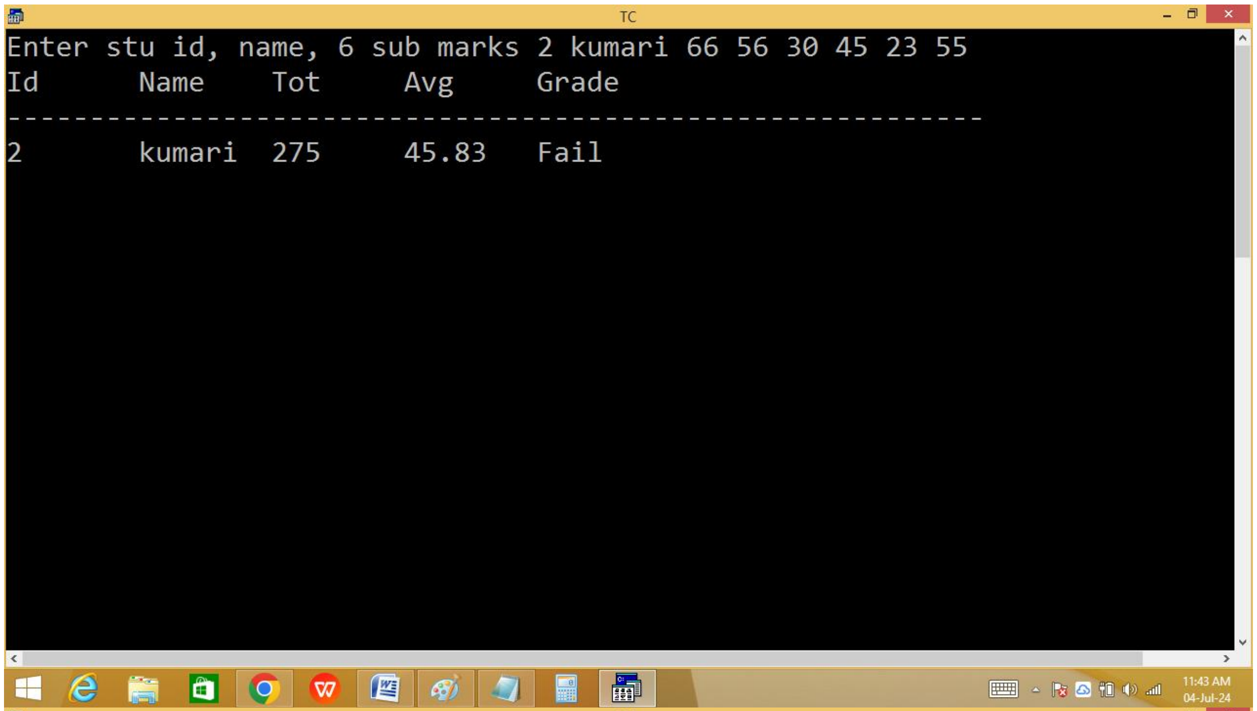


```
Enter pin 111111
Welcome to SBI ATM
```

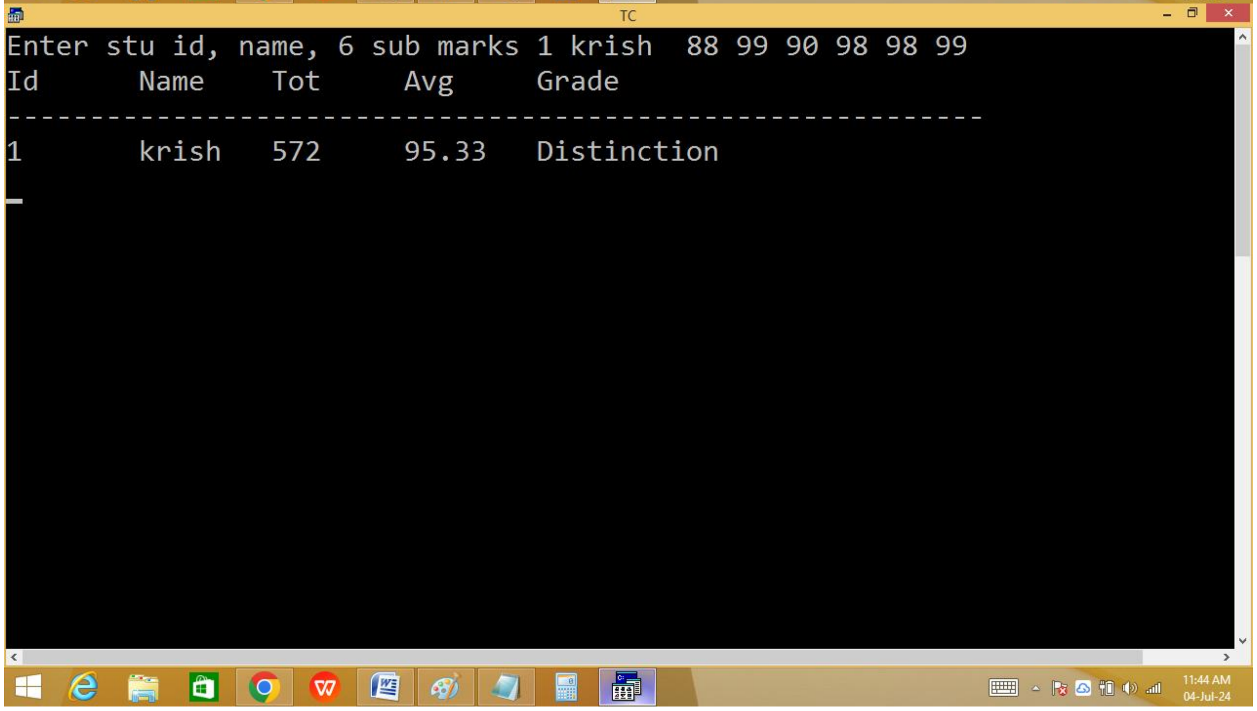
Read a stu id, name, 6 sub marks and find the tot, avg and grade.

#include<stdio.h>

```
#include<conio.h>
void main()
{
int  id, tel,eng,hin,mat,sci,soc,tot;
char name[20];
float avg;
clrscr();
printf("Enter stu id, name, 6 sub marks ");
scanf("%d%s%d%d%d%d%d%d",&id,name,&tel,&eng,&
hin,&mat,&sci,&soc);
tot=tel+eng+hin+mat+sci+soc;
avg=tot/6.0;
puts("Id\tName\tTot\tAvg\tGrade");
puts("---------------------------------------------------------");
printf("%d\t%s\t%d\t%.2f\t",id,name,tot,avg);
if(tel>=35&&eng>=35&&hin>=35&&mat>=35&&sci>=35
&&soc>=35)
{
if(avg>=75)puts("Distinction");
else if(avg>=60)puts("1st class");
else if(avg>=50)puts("2nd class");
else puts("3rd class");
}
else  puts("Fail");
getch();
}
```

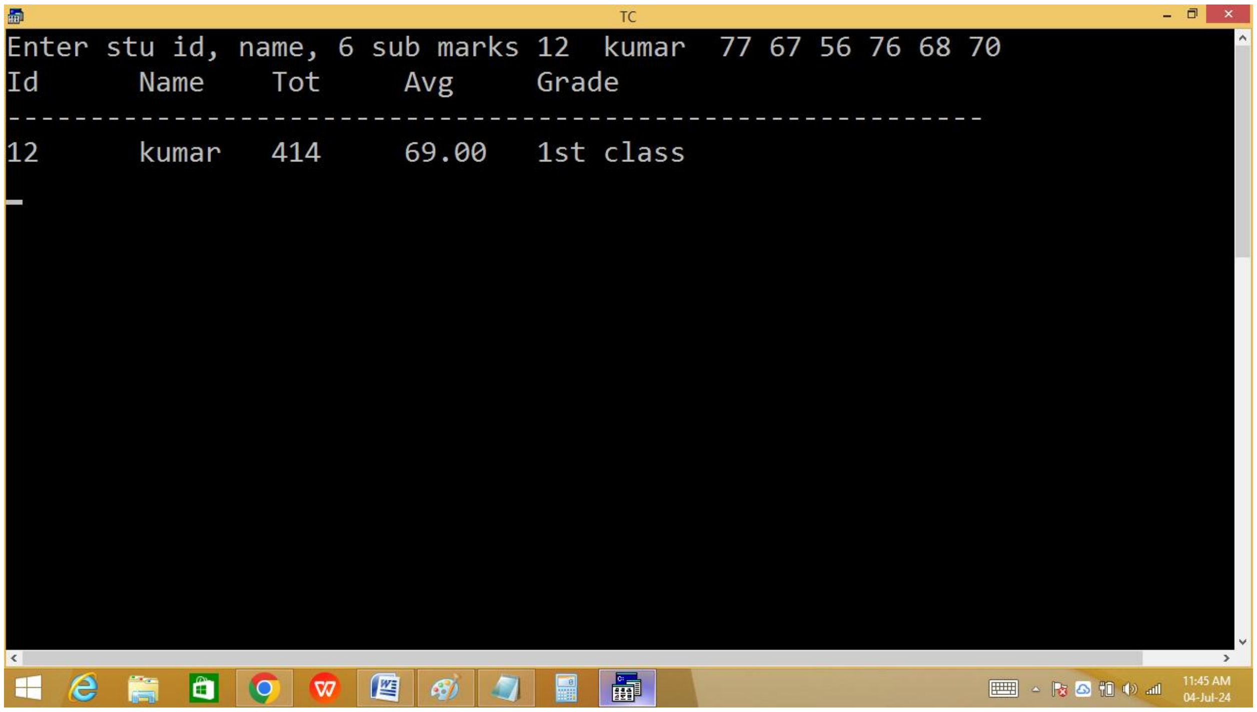


```
Enter stu id, name, 6 sub marks 2 kumari 66 56 30 45 23 55
Id      Name    Tot     Avg     Grade
-----------------------------------------------------------
2       kumari  275     45.83   Fail
```



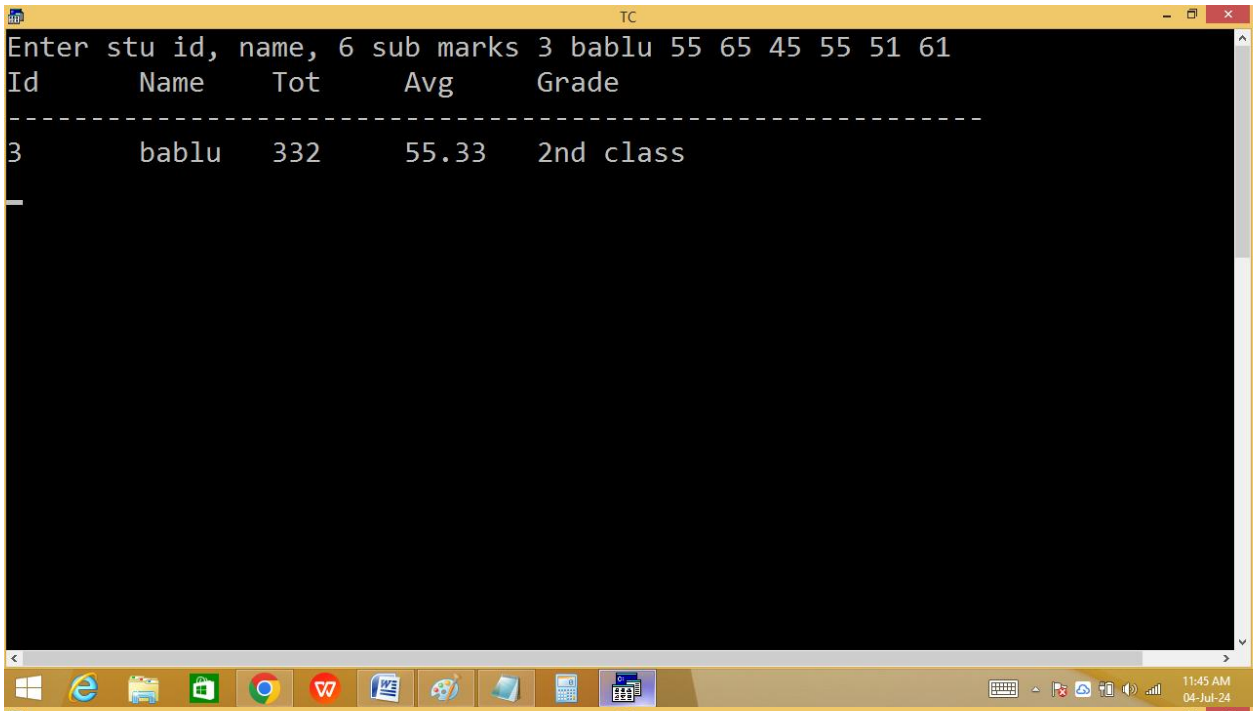
```
Enter stu id, name, 6 sub marks 1 krish  88 99 90 98 98 99
Id      Name    Tot     Avg     Grade
-----------------------------------------------------------
1       krish   572     95.33   Distinction

_
```



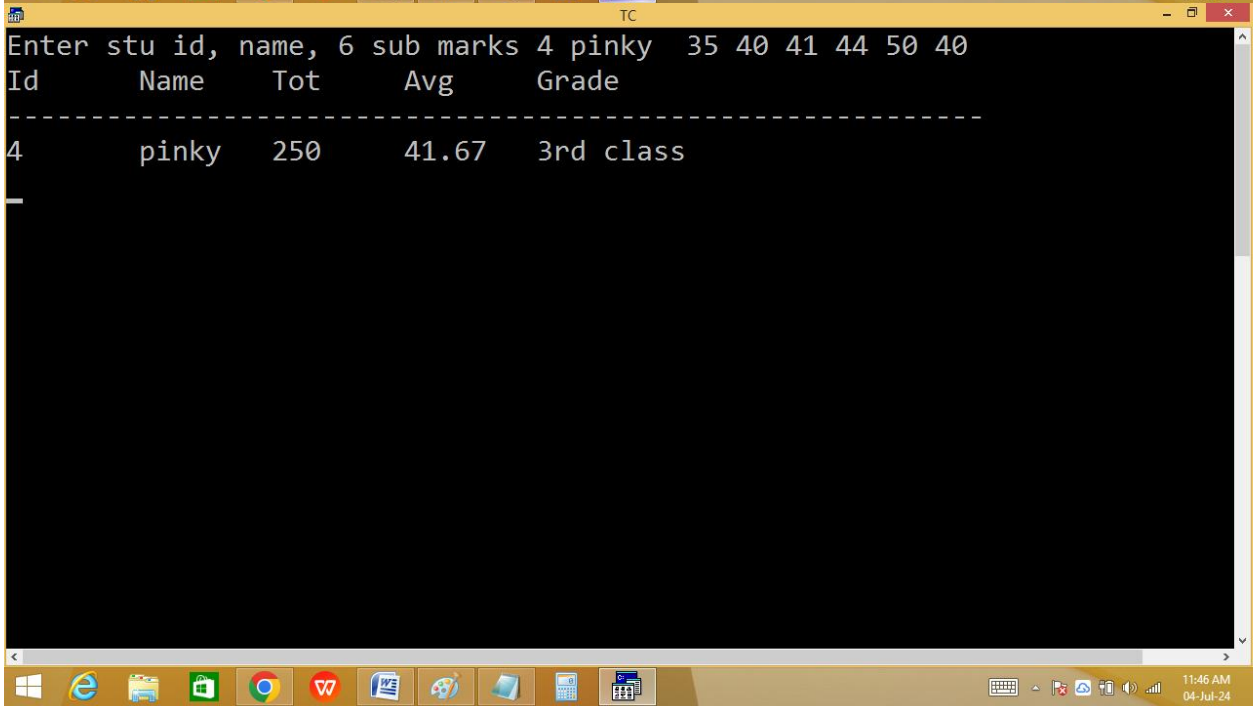
```
Enter stu id, name, 6 sub marks 12  kumar  77 67 56 76 68 70
Id      Name    Tot     Avg     Grade
-----------------------------------------------------------
12      kumar   414     69.00   1st class

_
```



```
Enter stu id, name, 6 sub marks 3 bablu 55 65 45 55 51 61
Id      Name    Tot     Avg     Grade
-----------------------------------------------------------
3       bablu   332     55.33   2nd class

_
```



```
Enter stu id, name, 6 sub marks 4 pinky  35 40 41 44 50 40
Id      Name    Tot     Avg     Grade
-----------------------------------------------------------
4       pinky   250     41.67   3rd class

_
```

Ternary / Conditional operator(? :)

It is similar to if else / ladder if in working style.

It allows to complete if else / ladder if in a single statement.

When we are working with if else/ladder if it is going to take more than one line of statements. Ternary operator is going to finish the same task in a single statement.

But the difference between if …else and ternary operator is ternary operator supports only one statement at a time and if supports any number of statements.

It is having 3 expressions. Hence it is called ternary operator.

It is starting with a condition. Hence it is called conditional operator.

Syntax:

condition ? true statement : false statement ;

↑ ↑ ↑

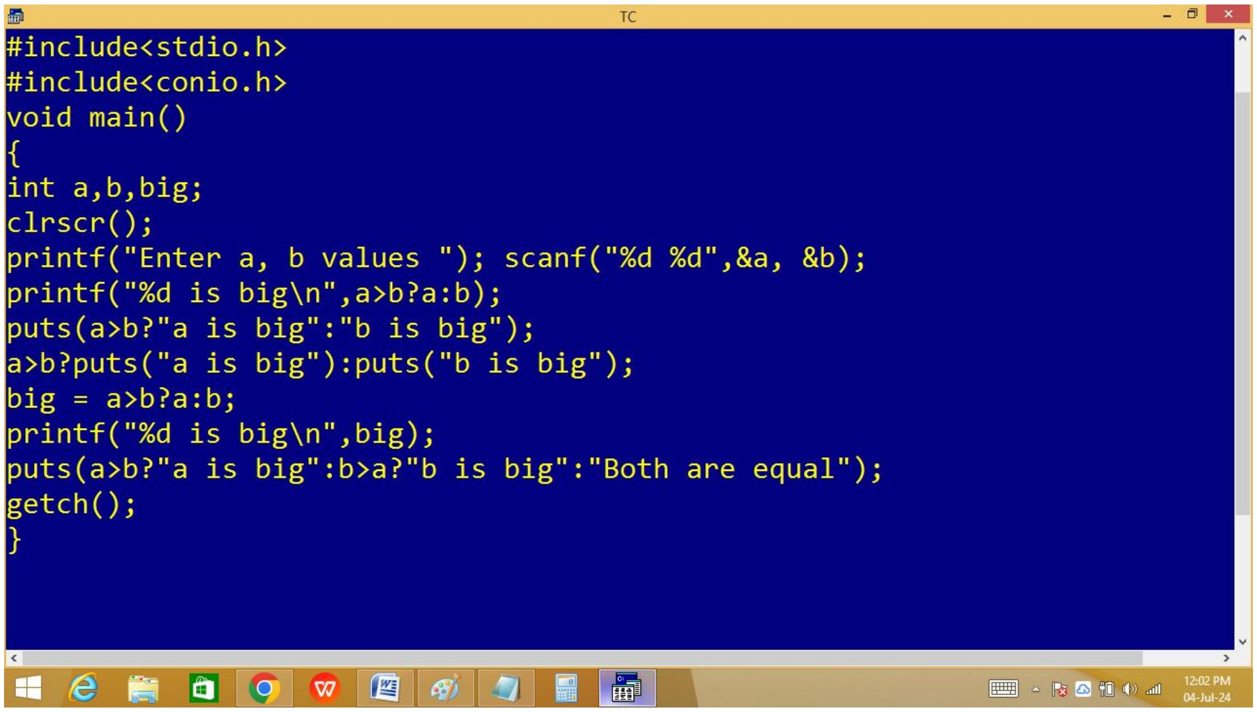
exp1/op1 exp2/op2 exp3/op3

If condition true, statement after **?** executed.

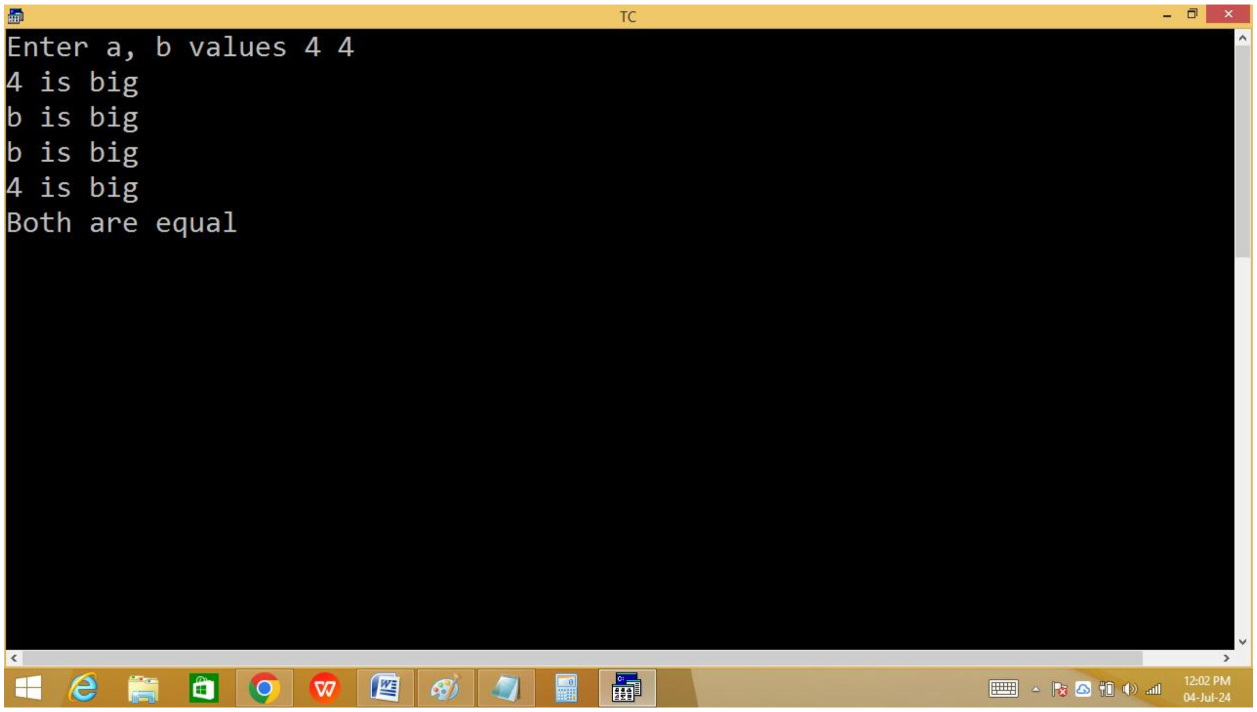
If condition false, statement after **:** is executed.

When compared with if else, conditional operator **performance is high**.

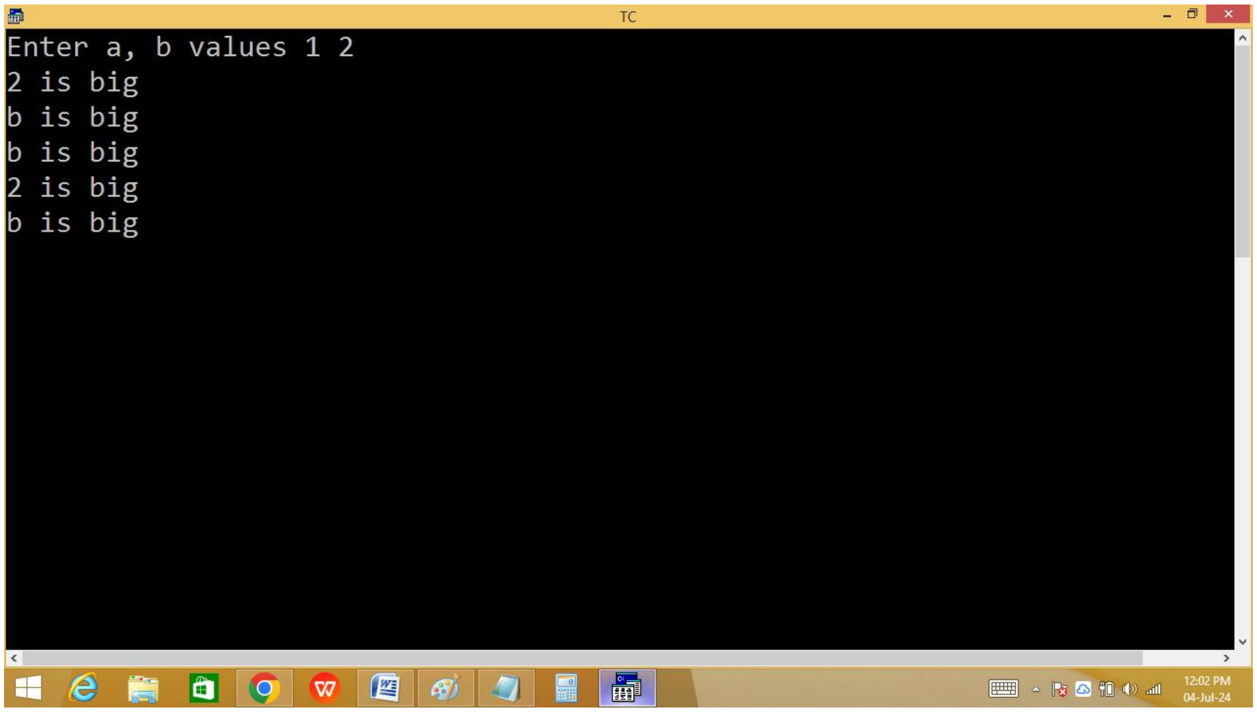
Eg:**Finding big in two no’s using ternary operator.**



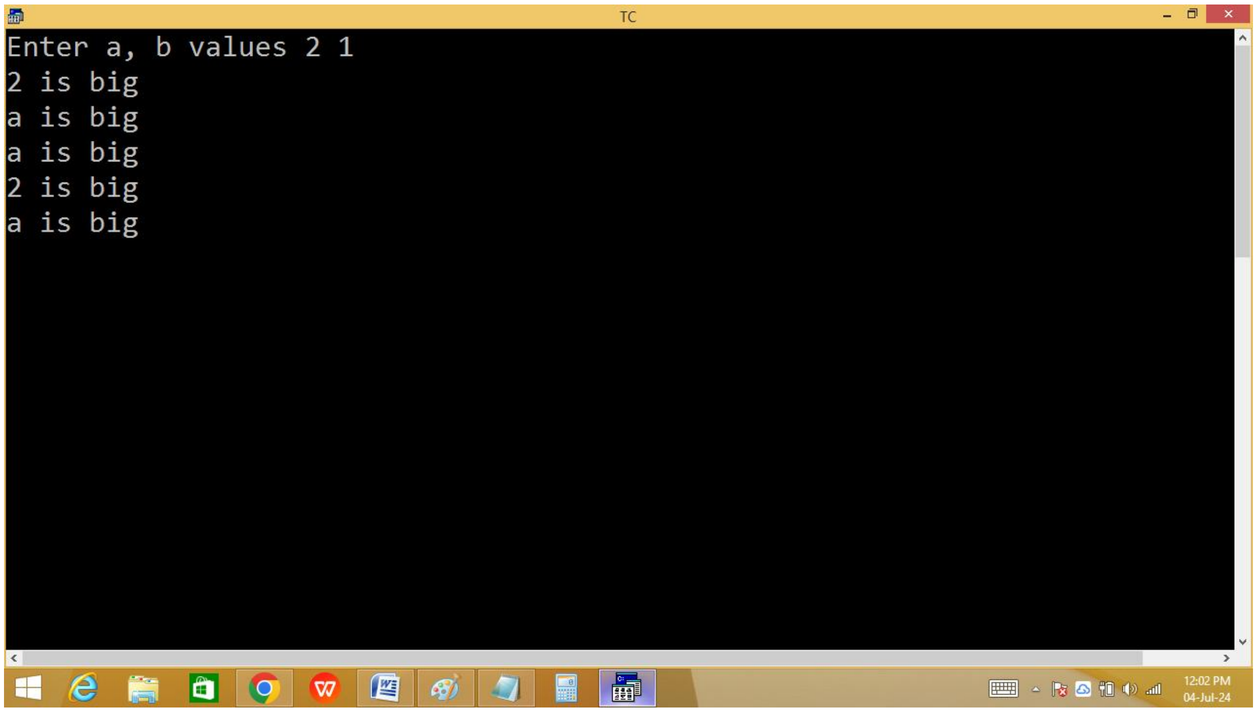
```
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,big;
clrscr();
printf("Enter a, b values "); scanf("%d %d",&a, &b);
printf("%d is big\n",a>b?a:b);
puts(a>b?"a is big":"b is big");
a>b?puts("a is big"):puts("b is big");
big = a>b?a:b;
printf("%d is big\n",big);
puts(a>b?"a is big":b>a?"b is big":"Both are equal");
getch();
}
```



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

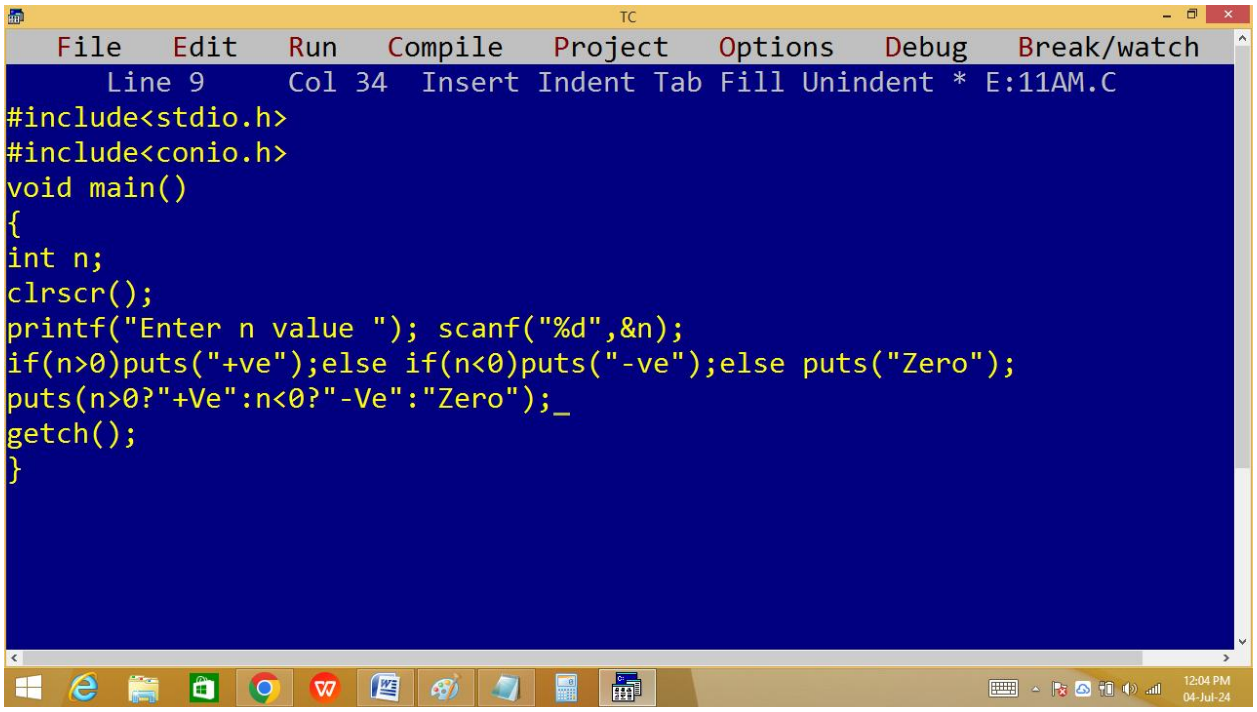


```
Enter a, b values 1 2
2 is big
b is big
b is big
2 is big
b is big
```



```
Enter a, b values 2 1
2 is big
a is big
a is big
2 is big
a is big
```

Finding +ve /-ve / 0 using ternary op: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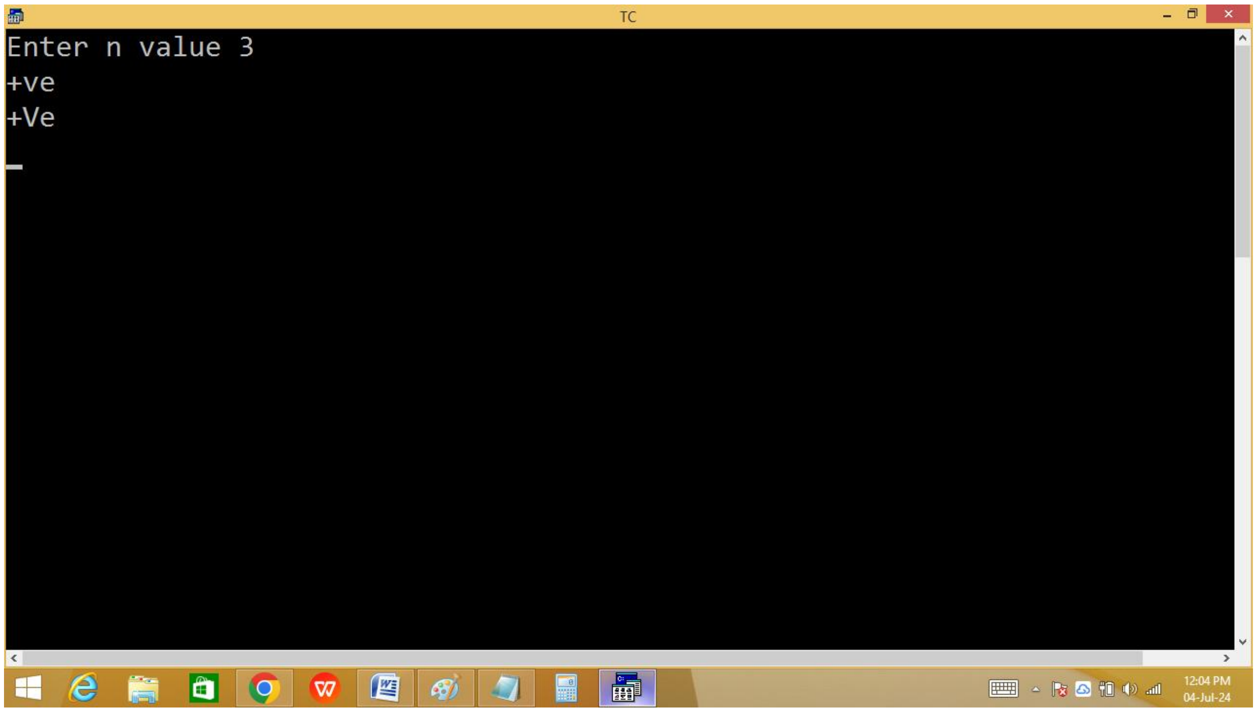
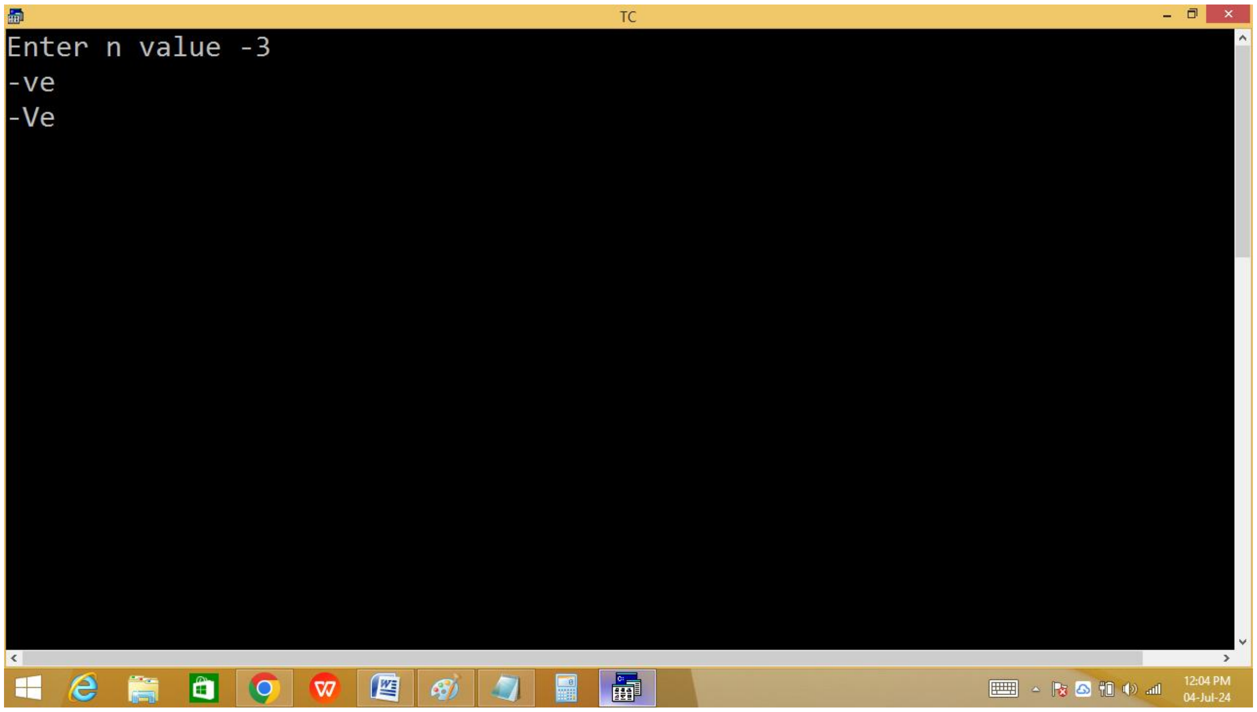
```c
#include<stdio.h>
#include<conio.h>
void main()
{
int n;
clrscr();
printf("Enter n value "); scanf("%d",&n);
if(n>0)puts("+ve");else if(n<0)puts("-ve");else puts("Zero");
puts(n>0?"+Ve":n<0?"-Ve":"Zero");_
getch();
}
```

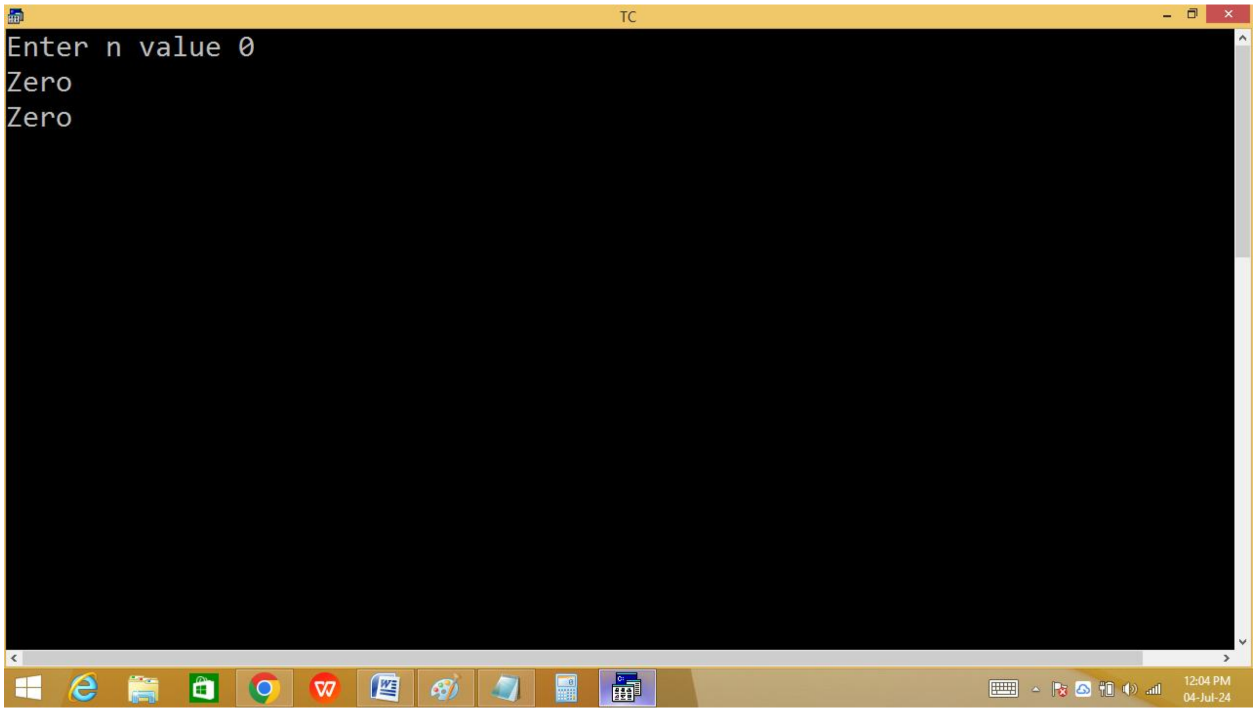


```
Enter n value 3
+ve
+Ve

_
```

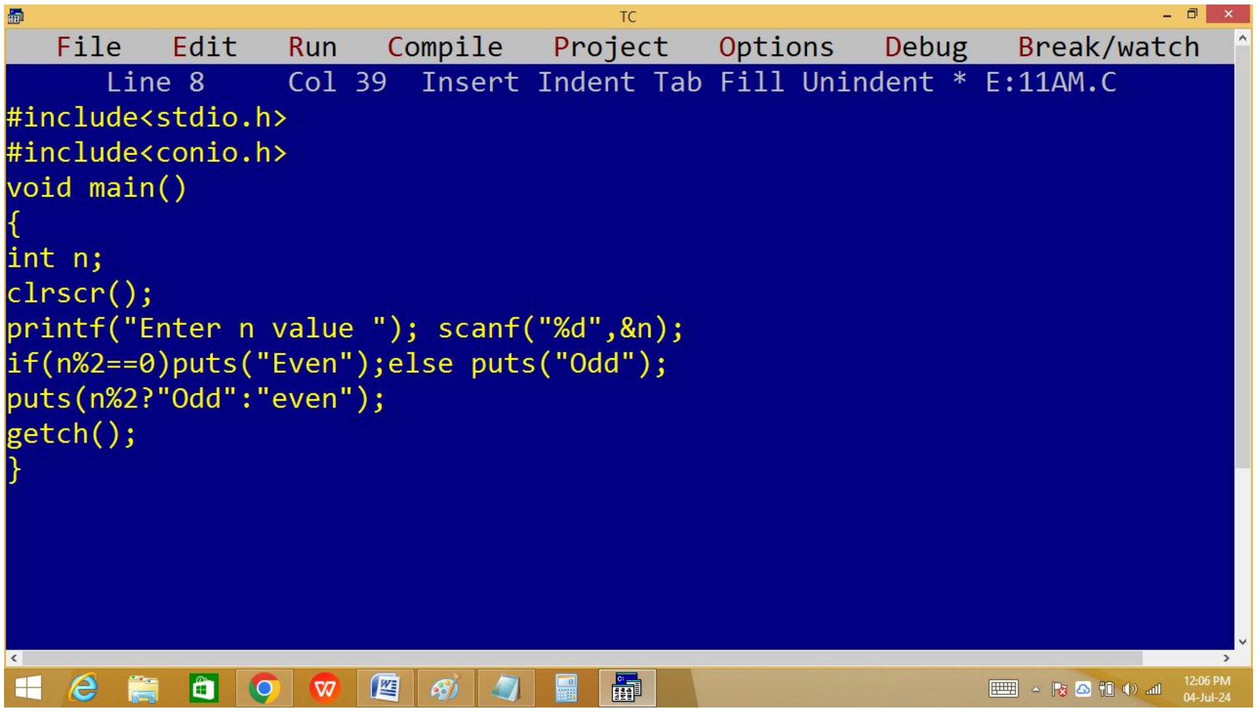

TC

```
Enter n value -3
-ve
-Ve
```


TC

```
Enter n value 0
Zero
Zero
```

Finding even/odd using ternary op:


TC
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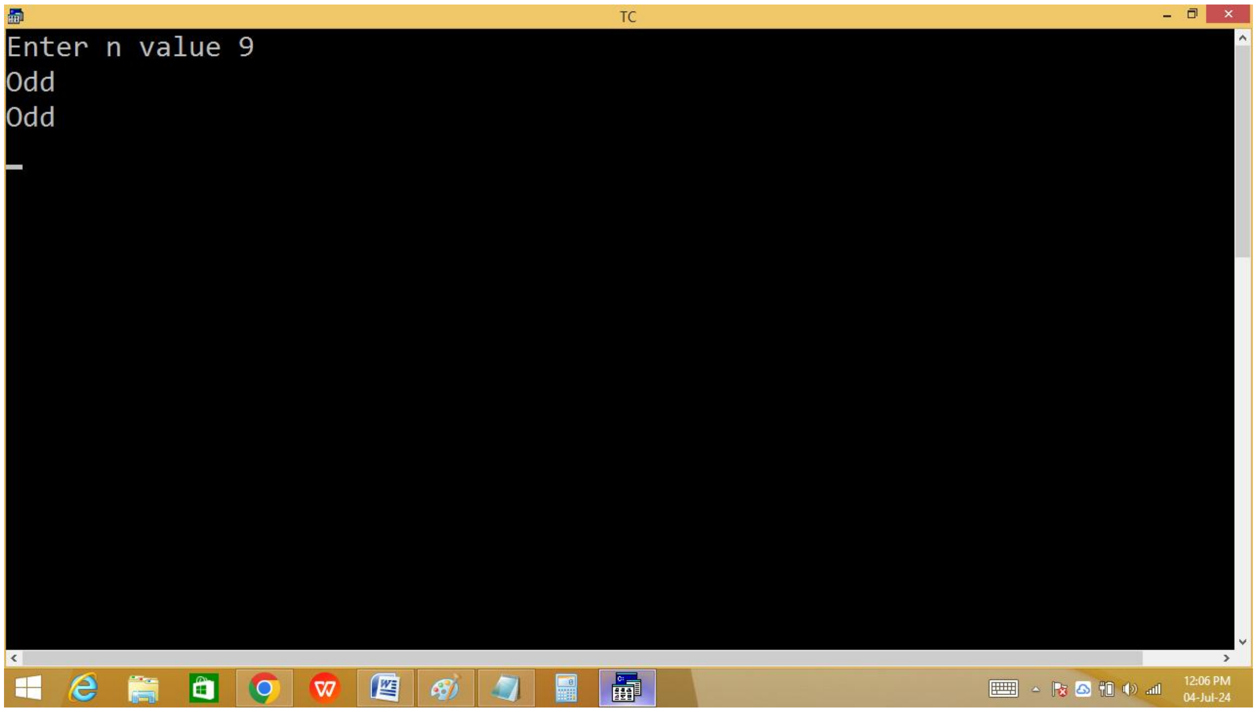
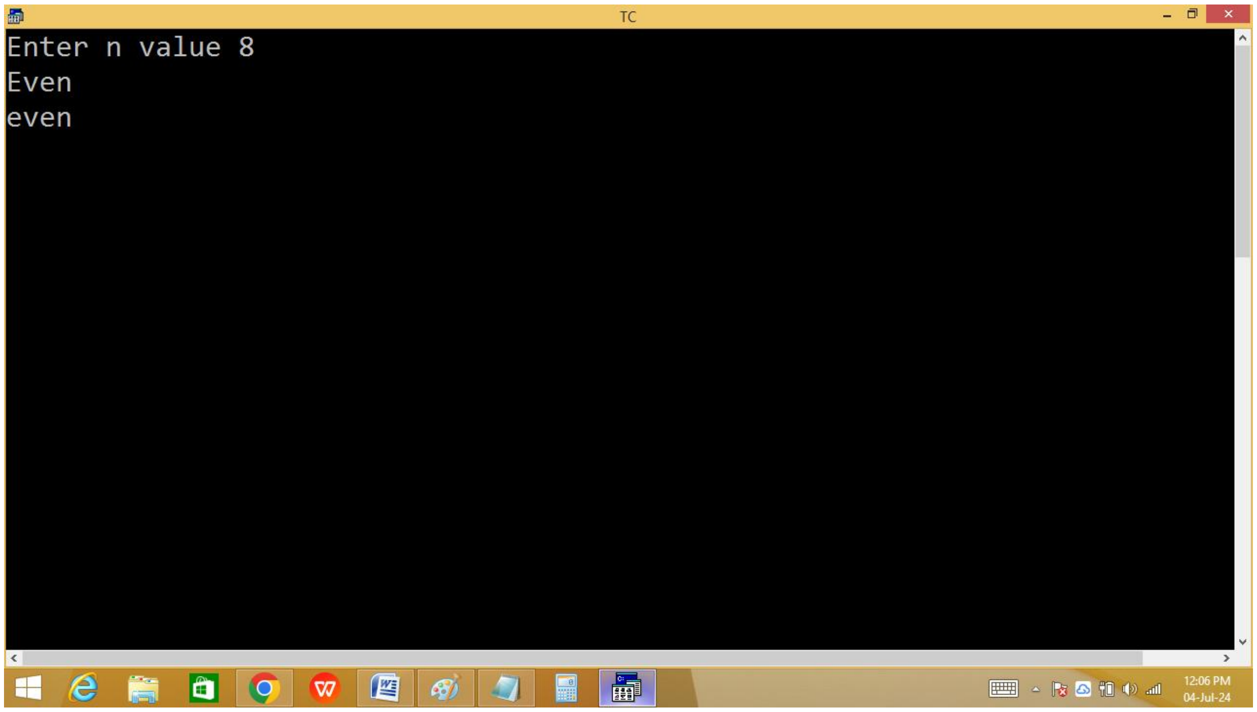
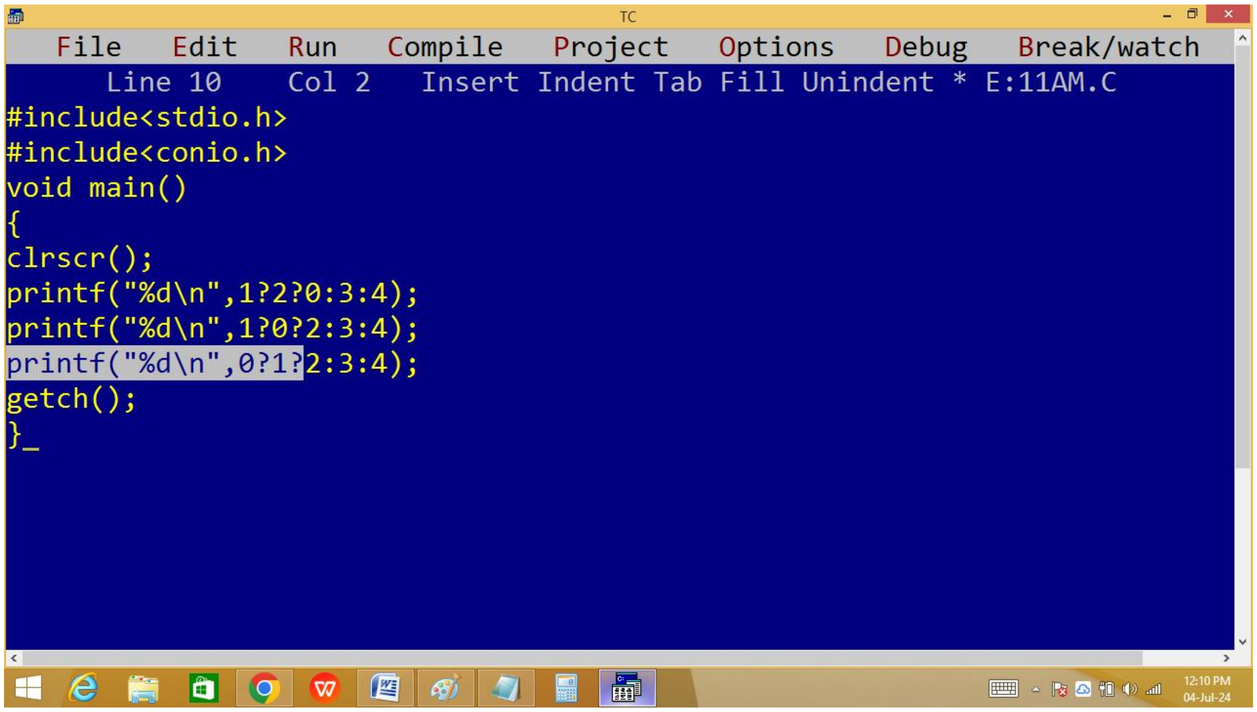
Line 8 Col 39 Insert Indent Tab Fill Unindent * E:11AM.C
12:06 PM
04-Jul-24

```
#include<stdio.h>
#include<conio.h>
void main()
{
int n;
clrscr();
printf("Enter n value "); scanf("%d",&n);
if(n%2==0)puts("Even");else puts("Odd");
puts(n%2?"Odd":"even");
getch();
}
```

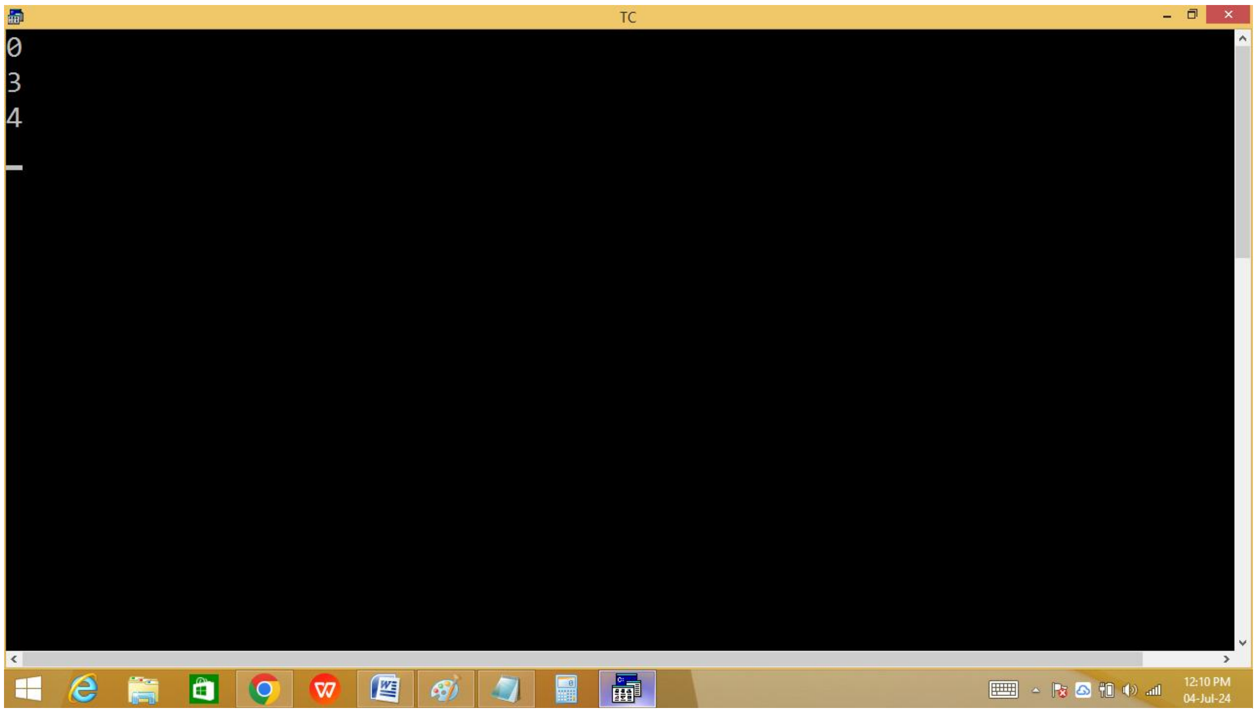


```
Enter n value 9
Odd
Odd
```

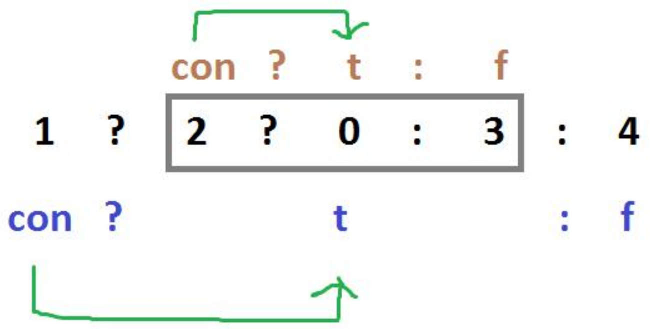

```
Enter n value 8
Even
even
```


File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 2 Insert Indent Tab Fill Unindent * E:11AM.C

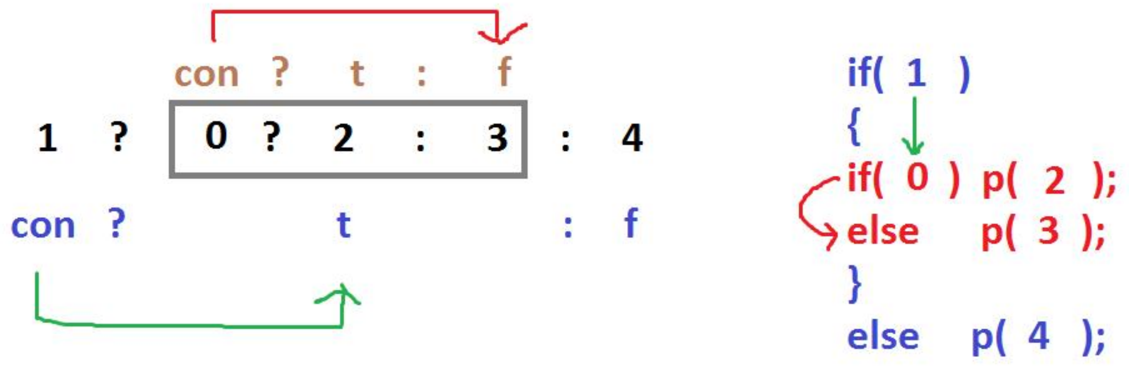
```c
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%d\n",1?2?0:3:4);
printf("%d\n",1?0?2:3:4);
printf("%d\n",0?1?2:3:4);
getch();
}_
```



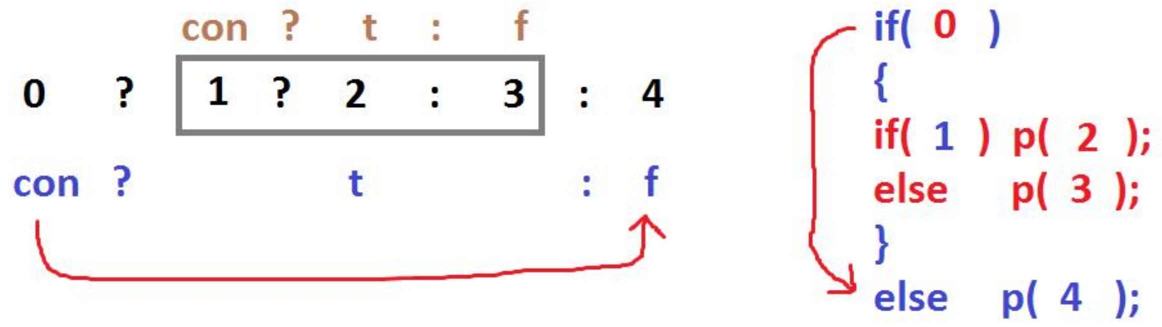
```
0
3
4
```



```
if( 1 )
{
if( 2 ) p( 0 );
else    p( 3 );
}
else    p( 4 );
```



```
if( 1 )
{
if( 0 ) p( 2 );
else    p( 3 );
}
else    p( 4 );
```



```
if( 0 )
{
if( 1 ) p( 2 );
else    p( 3 );
}
else    p( 4 );
```

Switch statement:

It is a selection statement.

It is used to execute one case of statements from no of cases according to the switch expression value matched with case expression value. In switch the program is jumped to matching case like the go to label.

It is similar to ladder if in working style.

Switch performance is high when compared with ladder if because of it jumps to matching case.

Syntax:

switch(**condition / expression**)

{

case **constexp1:**

statements;

break;

case **constexp2:**

statements;

break;

case **constexpN**:

statements;

break;

[**default:** statements;]

}

Here switch, case, break, default are the keywords.

In between case and case expression / value at least one space should be provided. Otherwise it will become a label.

case expression/value should be a constant integer/char value. i.e. float / string not allowed.

One case contains one expression only.
case expression doesn't contain any separators like , . etc.

case expression should be end with : (colon)

Each case should be separated with break keyword. Otherwise remaining cases also executed.

Duplicate cases not allowed.

default is similar to the else and all cases are failed then default statements are executed. Default is

optional and we can declare it anywhere in our switch.

Outside case expressions not considered in switch.