

Write a C program to find the biggest of two numbers:

Key points

Read a and b values from keyboard. Complete the code using the following syntax.

```
if(a>b) // true block
{
    printf("%d is big",a);
}
else //false block
{
    printf("%d is big",b);
}
```

Write a C program to find the roots of a quadratic equation

If determinant > 0 ,

$$\text{root1} = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$
$$\text{root2} = \frac{-b - \sqrt{b^2 - 4ac}}{2a}$$

If determinant $= 0$,

$$\text{root1} = \text{root2} = \frac{-b}{2a}$$

If determinant < 0 ,

$$\text{root1} = \frac{-b}{2a} + i \frac{\sqrt{-(b^2 - 4ac)}}{2a}$$
$$\text{root2} = \frac{-b}{2a} - i \frac{\sqrt{-(b^2 - 4ac)}}{2a}$$

Write a C program to find the given year is leap year or not

Keypoints:

Leap year condition:

- All centuries are not leap years.
- Centuries divided by 400 are called leap year.
- Normal years(other than centuries) which are divisible by 4 are leap years

Examples:

4 is a leap year

15 is not a leap year

96 is leap year

Every number divided by 4 is a leap year.

[Mathematically if x is a year then if(x%4==0) then x is a leap year otherwise not leap year

But century case is different.

Centuries: 100,200,500,2000,2100 etc

100 is not a leap year even though it is divided by 4.

Coming to centuries we have to check more condition.

if x is year then if(x%400==0) then x is a leap year otherwise not leap year

Examples:

100 is not a leap year

200,300,500,1100,2200 are not leap years.

400,1200.2000 are leap years.

Mathematically we can write it as

if(x%400==0) then x is a leap year

if(x%100!=0&& x%4==0) then x is a leap year

We can combine the above equations like

if((x%400=0) || (x%100!=0&& x%4==0)

{

 X is leap year

}