```
    {
        fac = fac * i;
    }
    System.out.println("The factorial of "+n+" is "+fac);
  }
}.
```

output

The factorial of 5 is 120

11 Develop a Java program that prints all real solutions to the quadratic equation $ax^2+bx+c=0$ Read in a, b, c and use the quadratic formula. If the discriminate b^2-4ac is negative, display stating that there are no real solutions.

```
import java.util.Scanner;

class Quadratic
{
    int a, b, c;
    double r1, r2, d;
    void geld()
    {
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the coefficients of a,b,
                            c");
        a = s.nextInt();
        b = s.nextInt();
        c = s.nextInt();
    }
```

```
void compute()
{
    while(a==0)
    {
        System.out.println("Not a quadratic
          equation");
        System.out.println("Enter a non zero
          value for a:");
        Scanner s = new Scanner(System.in);
        a = s.nextInt();
    }
    d = b*b - 4*a*c;
    if(d==0)
    {
        r1 = (-b)/(2*a);
    System.out.println("Roots are real and
          equal");
    System.out.println("Root1 = Root2 = "+r1);
    }
    else if(d>0)
    {
        r1 = ((-b)+(Math.sqrt(d)))/(double)(2*a);
        r2 = ((-b)-(Math.sqrt(d)))/(double)(2*a);
        System.out.println("Roots are real & distinct");
        System.out.println("Root1 = "+r1+" Root2
                    = "+r2);
    }
    else if(d<0)
    {
        System.out.println("Roots are imaginary");
        r1 = (-b)/(2*a);
```

```
        r2 = Math.sqrt(-d)/(2*a);
        System.out.println("Root1 = "+r1+i"+r2);
        System.out.println("Root1 = "+r1+"-i"+r2);
      }
    }
}
class QuadraticMain
{
    public static void main(String args[])
    {
        Quadratic q = new Quadratic();
        q.gild();
        q.compute();
    }
}
```

output: Enter the coefficients of a, b, c:

1
-2
1

Roots are real and equal
Root1 = Root2 = 1.0