Quadratic equation root calculation

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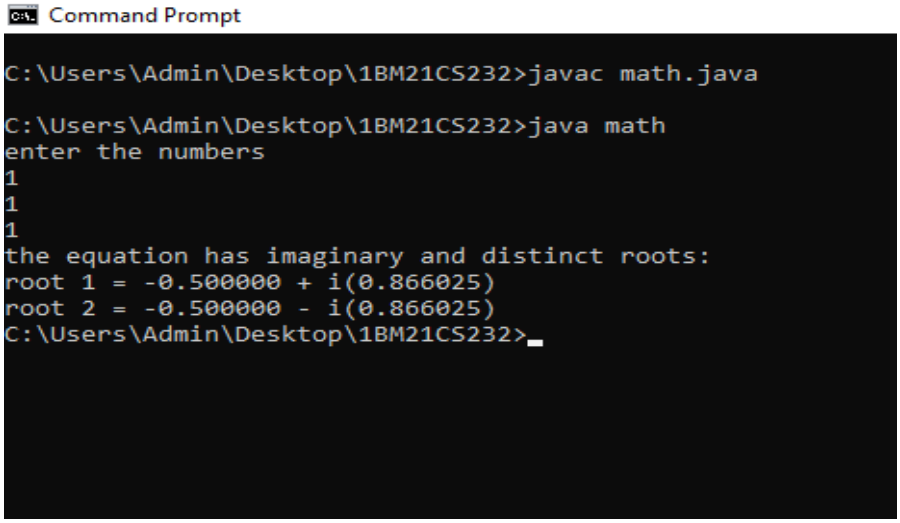
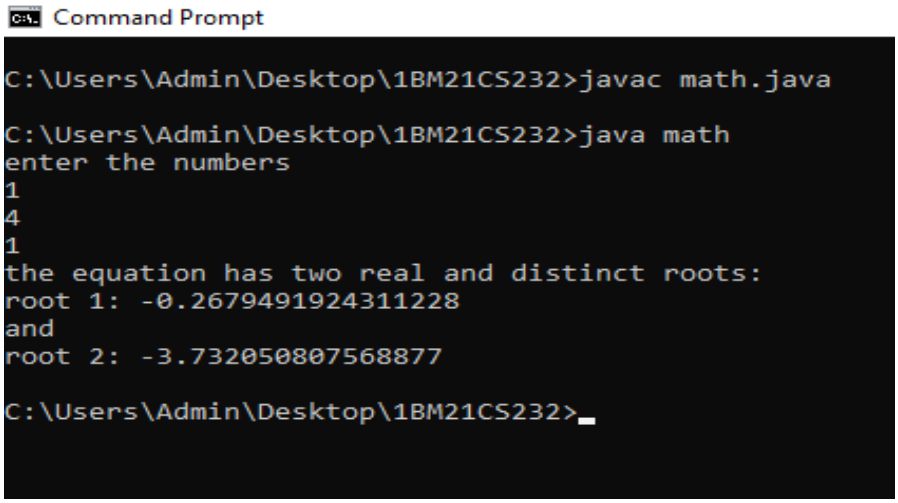
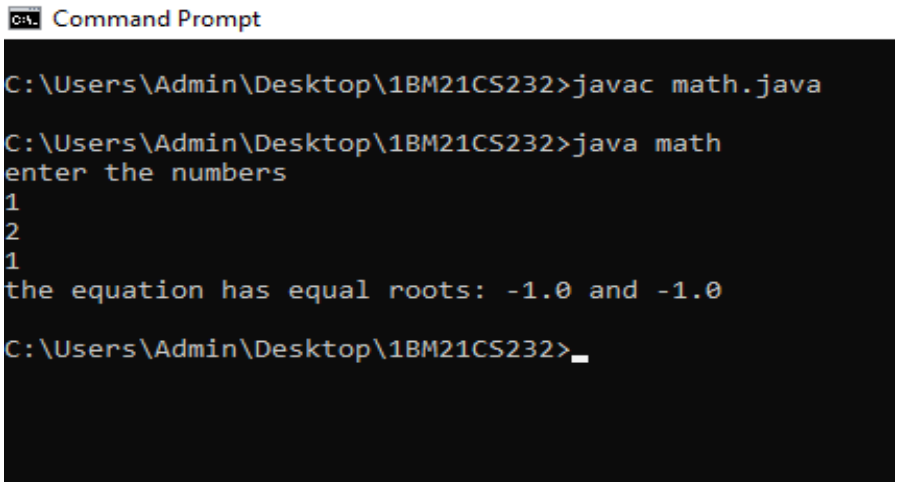
```
import java.util.Scanner;
class math {
        public static void main(String args[]) {
System.out.println("enter the numbers");
double r1,r2;
Scanner sc = new Scanner(System.in);
double a= sc.nextDouble();
double b= sc.nextDouble();
double c= sc.nextDouble();
double d=((b*b)-(4*a*c));
if(d==0) {
r1=-b/(2*a);
System.out.println("the equation has equal roots: "+r1+" and "+r1);
}
else if(d>0){
r1=(-b+Math.sqrt(d))/(2*a);
r2=(-b-Math.sqrt(d))/(2*a);
System.out.println("the equation has two real and distinct roots:\nroot 1:
"+r1+"\nand\nroot 2: "+r2);
}
else{
r1=-b/(2*a);
r2=Math.sqrt(-d)/(2*a);
System.out.println("the equation has imaginary and distinct roots:");
System.out.format("root 1 = %2f + i(%2f)\n",r1,r2);
```

```
System.out.format("root 2 = %2f - i(%2f)",r1,r2);

}

}

}
```

OUTPUTS:






Command Prompt
C:\Users\Admin\Desktop\1BM21CS232>javac math.java
C:\Users\Admin\Desktop\1BM21CS232>java math
enter the numbers
1
2
1
the equation has equal roots: -1.0 and -1.0
C:\Users\Admin\Desktop\1BM21CS232>