Lab Program 1:
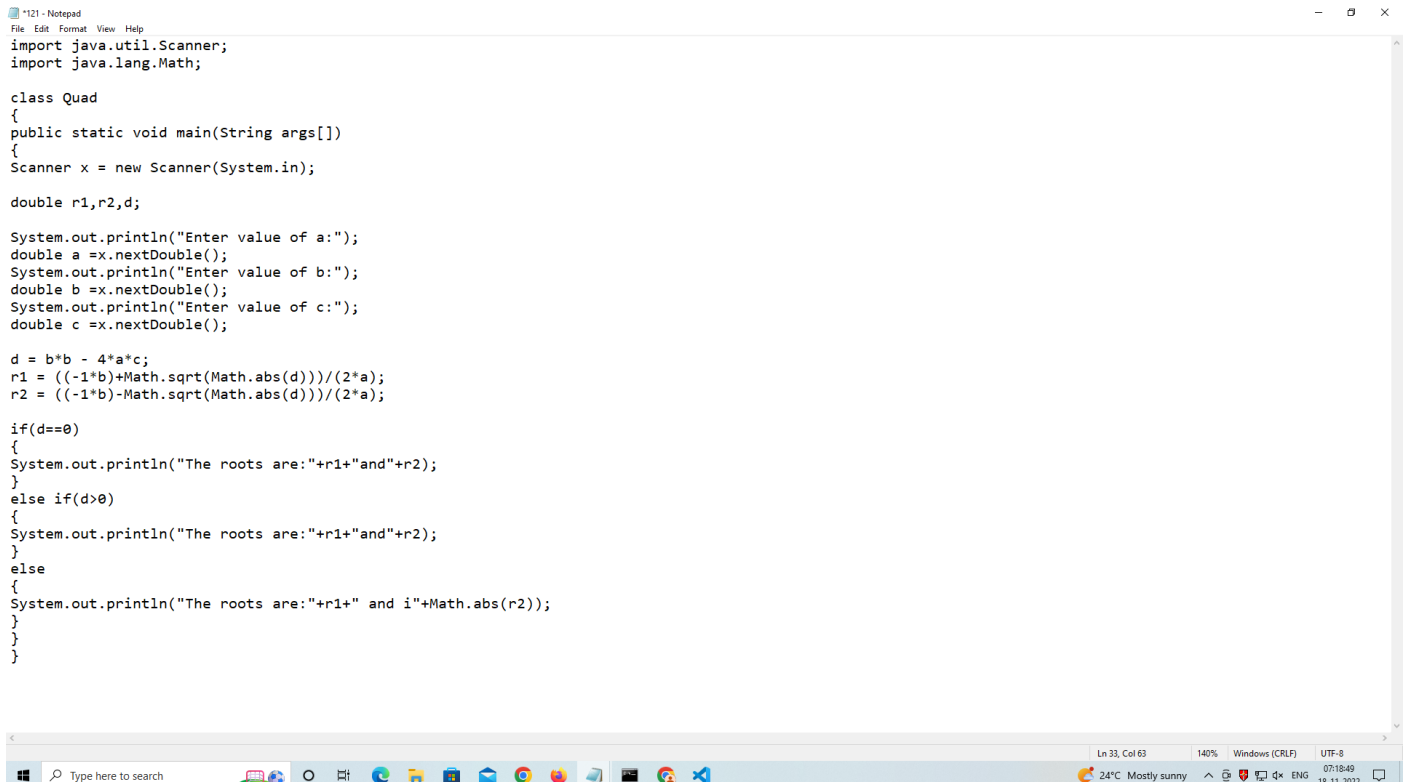
Develop a Java program that prints all real solutions to the quadratic equation
ax2+bx+c = 0. Read in a, b, c and use the quadratic formula. If the
discriminate b2
-4ac is negative, display a message stating that there are no
real solutions.

Once you complete this and get it attested from the faculty incharge, you can try the following programs.

 Extra Questions:
1. Develop a Java program to create a class Player with variables id, name, scores,
no_matches_played with default access specifier. Include the following:
a. Constructors
b. appropriate methods that calculates the average scores of the player and
displays the same.
Create two player objects and display the player details who has the greater average score

2. Develop a Java program to create a class Book with members – bookid, booktitle,
no_of_pages, year_of_pub, author, publisher and price. Create three objects of book
class. Include methods in Book class that do the following:
a. Accepting the book details
b. Displaying the book details
c. Accept the author name and display the book details.
d. Display the booktitle of the most expensive book
e. Display the count of the books published in the year 2020.
f. Display the book details of the book with the least number of pages

SCREEN SHORT :


```
*121 - Notepad
File  Edit  Format  View  Help
import java.util.Scanner;
import java.lang.Math;

class Quad
{
public static void main(String args[])
{
Scanner x = new Scanner(System.in);

double r1,r2,d;

System.out.println("Enter value of a:");
double a =x.nextDouble();
System.out.println("Enter value of b:");
double b =x.nextDouble();
System.out.println("Enter value of c:");
double c =x.nextDouble();

d = b*b - 4*a*c;
r1 = ((-1*b)+Math.sqrt(Math.abs(d)))/(2*a);
r2 = ((-1*b)-Math.sqrt(Math.abs(d)))/(2*a);

if(d==0)
{
System.out.println("The roots are:"+r1+"and"+r2);
}
else if(d>0)
{
System.out.println("The roots are:"+r1+"and"+r2);
}
else
{
System.out.println("The roots are:"+r1+" and i"+Math.abs(r2));
}
}
}
```

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```
C:\Users\bmsce>cd C:\Users\bmsce\Desktop\1BM21CS061

C:\Users\bmsce\Desktop\1BM21CS061>java Quad
Enter value of a:
1
Enter value of b:
2
Enter value of c:
1
The roots are:-1.0and-1.0

C:\Users\bmsce\Desktop\1BM21CS061>java Quad
Enter value of a:
2
Enter value of b:
3
Enter value of c:
4
The roots are:0.4489578808281798 and i1.9489578808281798

C:\Users\bmsce\Desktop\1BM21CS061>java Quad
Enter value of a:
2
Enter value of b:
5
Enter value of c:
2
The roots are:-0.5and-2.0

C:\Users\bmsce\Desktop\1BM21CS061>java Quad
Enter value of a:
0
Enter value of b:
2
Enter value of c:
5
Invalid inputs

C:\Users\bmsce\Desktop\1BM21CS061>
```