Hetauda School of Management and Social Science

Hetauda, Makwanpur

Lab Report on C Programming

BIM [First Semester]

Submitted by

Student Name:

Roll No:

Submitted to

Lecturer Name:

Department of IT

HSM

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Submitted by :

Student Name:

Roll No:

Course / Program:

Submitted to:

Lecturer Name :

Department:

Subject :

S.N.	Lab Topic	Date	Remarks
1.			
2.			

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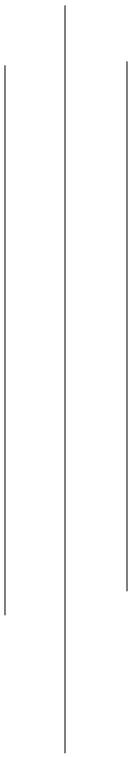
Hetauda, Makwanpur



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Report Title

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Lecturer Name:

Department of IT, HSM

Signature :

Objective(s):

- To be familiar with control structure in C.
- To learn solving equations using C.

Title:

Write a Program in C to find all the roots of the quadratic equation.

Theory:

1. Explain about quadratic equation and its different root condition for different discriminant values.
2. Explain about control structure in C.
3. Explain about if else-if statement in C.
4. Explain about <math.h> header file and the use of pow() and sqrt() function in C.

Algorithm:

Step 1. Start

Step 2. Read the coefficients of the quadratic equation, a, b and c from the user.

Step 3. Calculate discriminant = (b * b) – (4 * a * c)

Step 4. If discriminant > 0:

4.1: Calculate root1 = (-b + sqrt(discriminant)) / (2 * a)

4.2: Calculate root2 = (-b - sqrt(discriminant)) / (2 * a)

4.3: Display “Roots are real and different”

4.4: Display root1 and root2

Step 5: Else if discriminant = 0:

5.1: Calculate root2 = root1 = -b / (2 *a)

5.2: Display “Root are real and equal”

5.3: Display either root1 or root2

Step 6. Else:

6.1: Calculate real number part = -b / (2 * a)

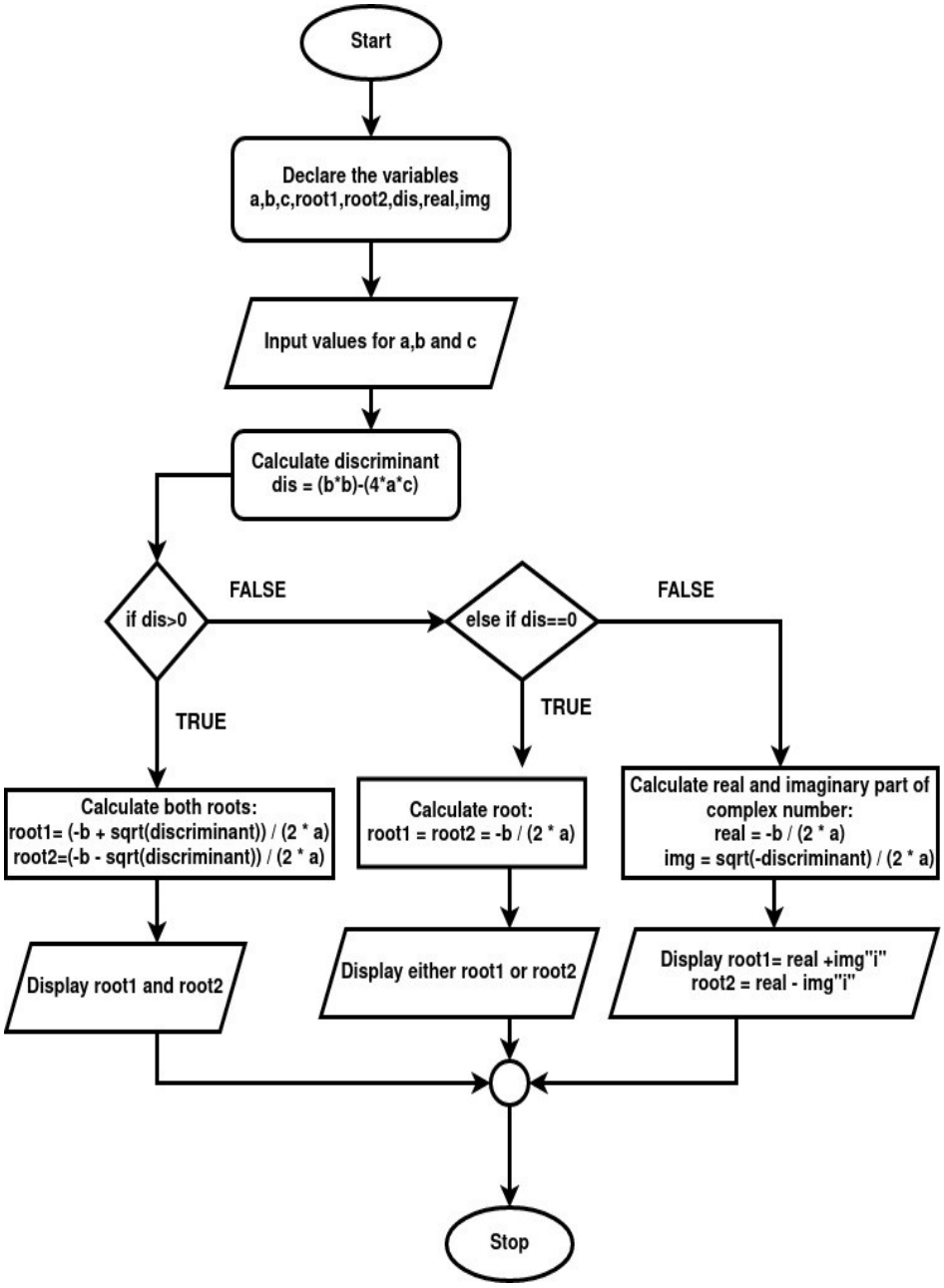
6.2:Calculate imaginary part = sqrt(-discriminant) / (2 * a)

6.3: Display “Roots are complex number”

6.4: Display both roots : Root 1 = real + imaginary”i” and Root 2= real – imaginary“i”

Step 7. Stop

Flow Chart:



Code:

// Write a well documented code

Output (Compilation, Debugging & Testing):

Input : *Write here what inputs were given for which variables.*

Output : *Write here the exact output you received for the given input in your computer screen.*

Discussion and Conclusion:

- Compare your different results/output.
- Mention any unusual/(any outputs not included in your results) but seen in your program.
- What does your results mean to you.
- What other ways you could have achieved the same result i.e maybe using switch case
- Restate your main conclusion.