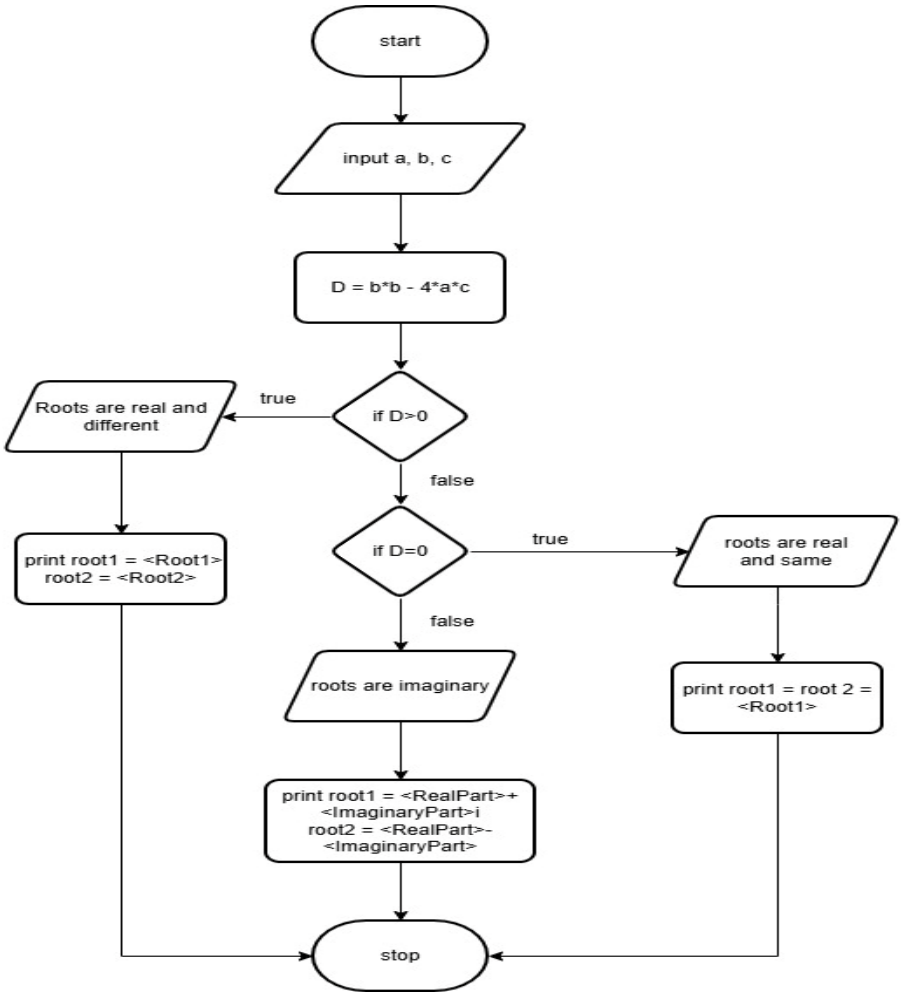
Flow chart

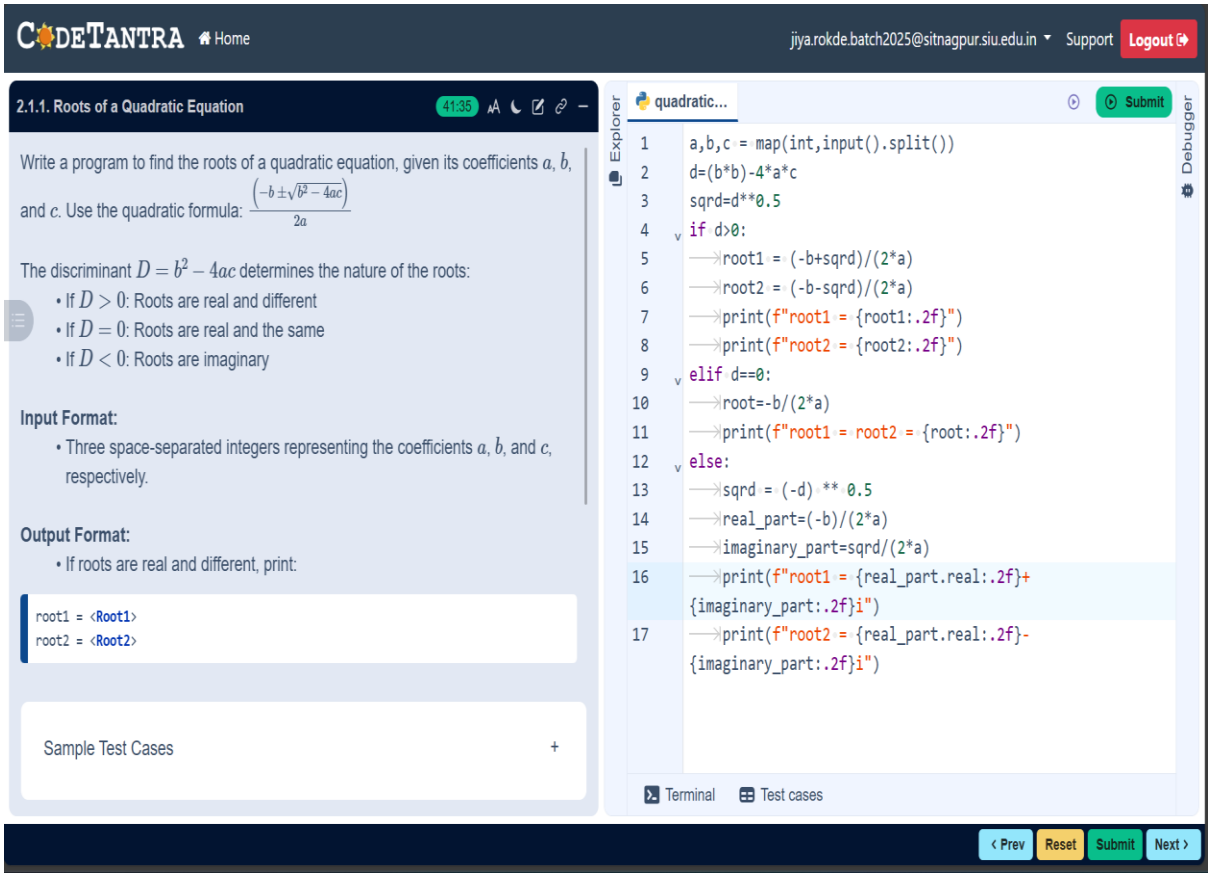
2.1.1



Algorithm: -

1. Start
2. Read values of a, b, and c
3. Calculate discriminant $D = b^2 - 4ac$
4. If $D > 0$
   - Find two real roots using the quadratic formula
   - Print both roots
5. If $D = 0$
   - Find one real root
   - Print the same root twice
6. If $D < 0$
   - Find real and imaginary parts
   - Print two imaginary roots
7. Stop

Flow chart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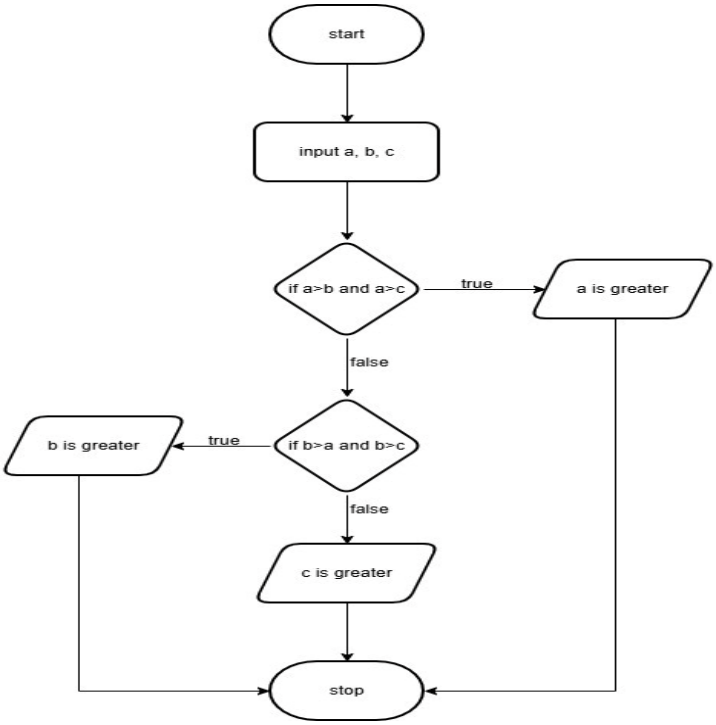
2.1.1. Roots of a Quadratic Equation
41:35
Write a program to find the roots of a quadratic equation, given its coefficients a, b, and c. Use the quadratic formula: $\frac{\left(-b \pm \sqrt{b^2-4ac}\right)}{2a}$
The discriminant $D = b^2 - 4ac$ determines the nature of the roots:
• If $D > 0$: Roots are real and different
• If $D = 0$: Roots are real and the same
• If $D < 0$: Roots are imaginary
Input Format:
• Three space-separated integers representing the coefficients a, b, and c, respectively.
Output Format:
• If roots are real and different, print:
root1 = <Root1>
root2 = <Root2>
Sample Test Cases
+
Explorer
quadratic...
Submit
Debugger
1 a,b,c = map(int,input().split())
2 d=(b*b)-4*a*c
3 sqrd=d**0.5
4 if d>0:
5 root1 = (-b+sqrd)/(2*a)
6 root2 = (-b-sqrd)/(2*a)
7 print(f"root1 = {root1:.2f}")
8 print(f"root2 = {root2:.2f}")
9 elif d==0:
10 root=-b/(2*a)
11 print(f"root1 = root2 = {root:.2f}")
12 else:
13 sqrd = (-d) ** 0.5
14 real_part=(-b)/(2*a)
15 imaginary_part=sqrd/(2*a)
16 print(f"root1 = {real_part.real:.2f}+{imaginary_part:.2f}i")
17 print(f"root2 = {real_part.real:.2f}-{imaginary_part:.2f}i")
Terminal
Test cases
‹ Prev
Reset
Submit
Next ›

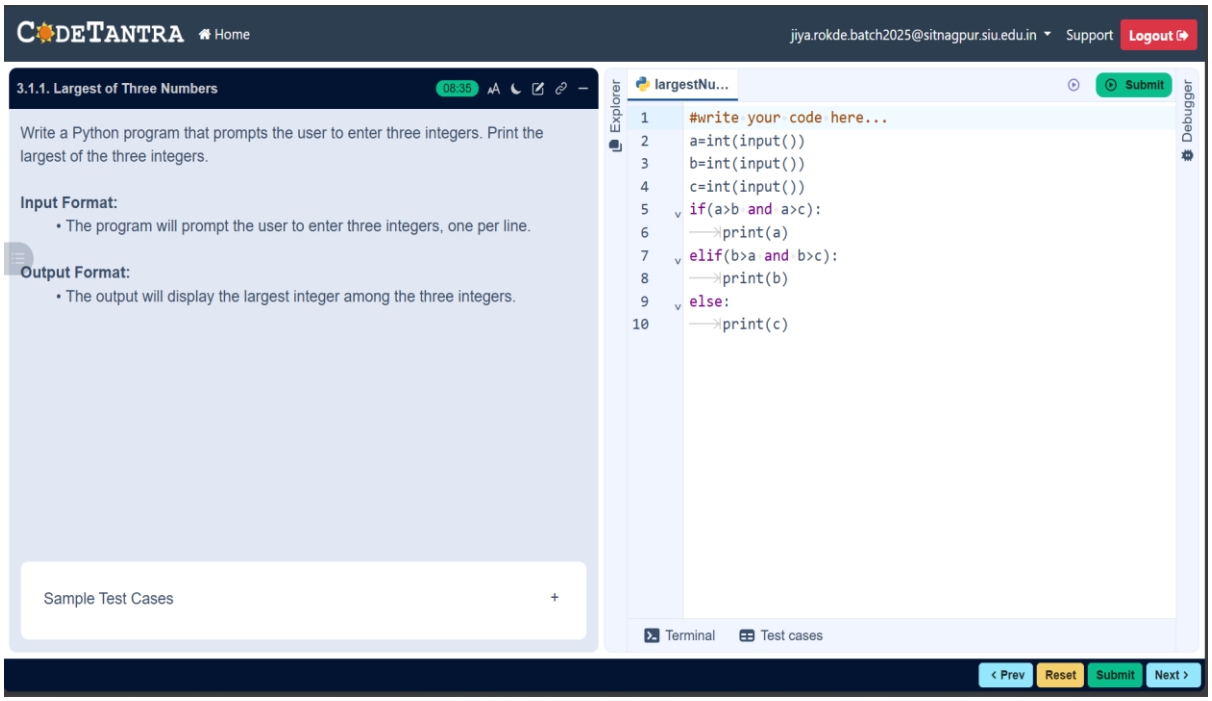
Flow chart

3.1.1



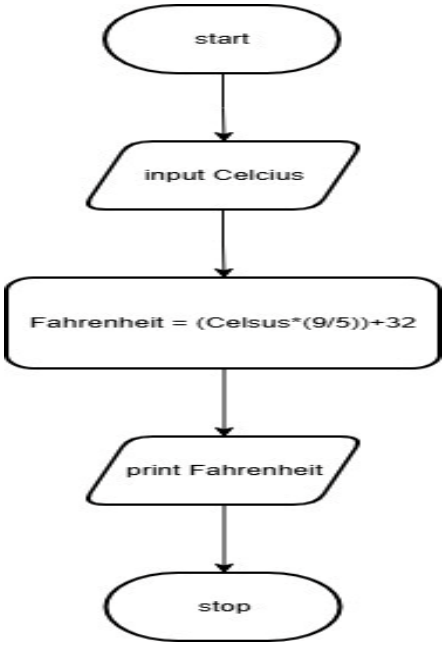
Algorithm: -

1. Start
2. Read three integers a, b, and c
3. If a is greater than both b and c, print a
4. Else if b is greater than both a and c, print b
5. Else, print c
6. Stop



Flow chart

3.1.2



Algorithm: -

1. Start
2. Read temperature in Celsius
3. Convert it to Fahrenheit using
   F = (C × 9/5) + 32
4. Print the Fahrenheit value (up to 2 decimal places)
5. Stop