

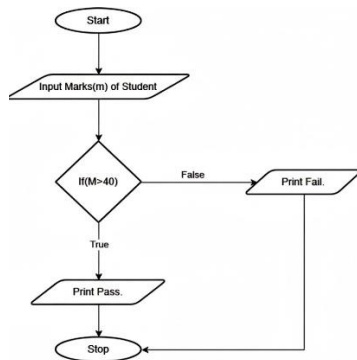
Problem Statement:-

Write a Python program to determine whether a student passed the exam or not based on their marks.

Algorithm:-

1. Start.
2. Read the marks obtained by the student.
3. If marks $> 40 \rightarrow$ Display "Pass".
4. Else \rightarrow Display "Fail".
5. Stop.

Flowchart:-



Execution:-

The screenshot shows the CodeTANTRA IDE interface. The left pane displays the problem statement and requirements. The right pane shows the Python code for the program.

1.1.5. Student Pass or Fail Status

Write a Python program to determine whether a student passed the exam or not based on their marks.

Pass/Fail Criteria:

- A student passes if marks ≥ 40
- A student fails if marks < 40

Input Format:

- Single line contains an integer representing the marks obtained by the student.

Output Format:

- Print "Pass" if the student passed the exam.
- Print "Fail" if the student failed the exam.

```
1 m=int(input())
2 if(m>=40):
3     print("Pass")
4 else:
5     print("Fail")
```

Experiment 02:-

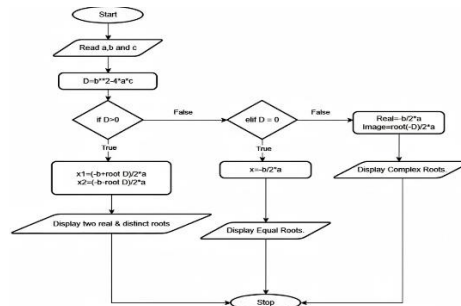
Problem Statement:-

Write a program to find the roots of a quadratic equation, given its coefficients a, b, and c. Use the quadratic formula: $(-b \pm \sqrt{b^2 - 4ac})/2a$.

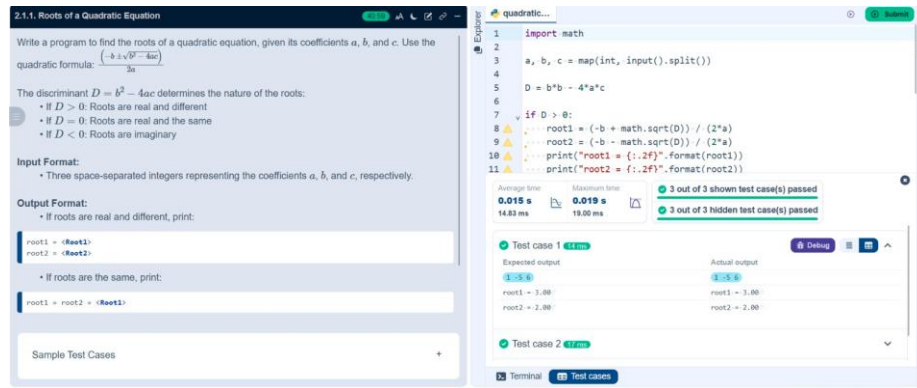
Algorithm:-

1. Start.
2. Read the coefficients a, b, and c.
3. Calculate the discriminant using:- $D = b^2 - 4ac$.
4. If $D > 0$ Compute:- $x_1 = (-b + \sqrt{D})/2a$ and $x_2 = (-b - \sqrt{D})/2a$ Display two real and distinct roots.
5. Else if $D = 0$ Compute:- $x = -b/2a$ Display equal real roots.
6. Else ($D < 0$) Compute:- Real part = $-b/2a$ Imaginary part = $\sqrt{-D}/2a$ Display complex roots.
7. Stop.

Flowchart:-



Execution:-



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Experiment 03:-

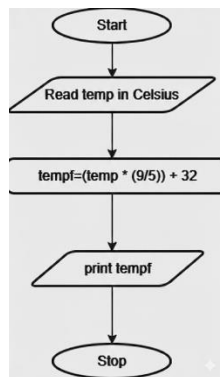
Problem Statement:-

Write a Python program to convert temperature from Celsius to Fahrenheit.

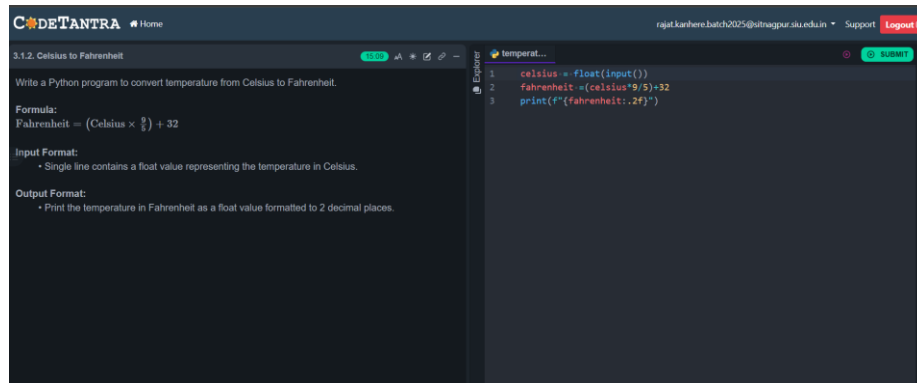
Algorithm:-

1. Start.
2. Input temperature in Celsius C.
3. Calculate Fahrenheit using the formula $F = (C \times 9/5) + 32$.
4. Display the temperature in Fahrenheit.
5. Stop.

Flowchart:-



Execution:-



The screenshot displays the CODETANTRA online IDE interface. The top header includes the CODETANTRA logo, a home icon, the user email 'rajat.karhera.batch2025@nitnagpur.ac.in', and links for 'Support' and 'Logout'. The main workspace is divided into two panels. The left panel, titled '3.1.2. Celsius to Fahrenheit', contains instructions: 'Write a Python program to convert temperature from Celsius to Fahrenheit.', the formula
$$\text{Fahrenheit} = \left(\text{Celsius} \times \frac{9}{5}\right) + 32$$
, and input/output format specifications. The right panel, titled 'temperat...', shows a Python script with three lines of code:

```
1 celsius = float(input())
2 fahrenheit = (celsius*9/5)+32
3 print(f'{fahrenheit:.2f}')
```