

# Mini-Project: Simple Calculator

## Objective

Create a simple interactive calculator that:

- Takes two numbers as input.
  - Takes an operator (+, -, \*, /, \*\*) as input.
  - Performs the requested operation.
  - Displays the result.
  - Handles errors (division by zero, invalid input, etc.).
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## 1. Explanation of the Functioning

The program works in several steps:

1. It asks the user to enter the first number.
  2. It then asks for the operator (+, -, \*, /, \*\*).
  3. Finally, it asks for the second number.
  4. It performs the corresponding operation.
  5. It displays the result.
  6. If an error occurs (e.g., division by zero or non-numeric input), it displays an error message.
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## 2. Steps to Implement

1. Use `input()` to take user input.
2. Convert the input values into numbers using `float()`.

3. Use conditional statements (`if-elif-else`) to determine the operation to perform.
  4. Handle errors using `try-except` blocks.
  5. Display the result in a user-friendly format.
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### 3. Example Test Cases

Input	Expected Output
<code>5 + 3</code>	<code>Result: 8.0</code>
<code>10 - 4</code>	<code>Result: 6.0</code>
<code>7 * 6</code>	<code>Result: 42.0</code>
<code>8 / 2</code>	<code>Result: 4.0</code>
<code>2 ** 2</code>	<code>4</code>
<code>9 / 0</code>	<code>Error: Cannot divide by zero</code>
<code>3 &amp; 2</code>	<code>Error: Invalid operator</code>
<code>abc + 2</code>	<code>Error: Invalid input</code>

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### 4. Implementation Strategy

- Define a function `calculator()` that contains the entire logic.
  - Use `try-except` blocks to catch invalid inputs and division by zero.
  - Use `if-elif` statements to check the operator and perform the calculation.
  - Ensure that the program provides clear and readable error messages.
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## 5. Conclusion

This mini-project serves as an introduction to control structures, error handling, and basic arithmetic operations in Python. It helps beginners understand how to interact with user input and handle exceptions effectively.

 **Final Goal:** A fully functional and tested program! 