

INPUT AND OUTPUT

Course: Python Programming

Section: Python Basics

Topic: Input and Output

What You Will Learn

- What input and output mean in programming
 - How Python takes input from users
 - How Python displays output
 - Type conversion for user input
 - Common input/output mistakes
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1. What is Input?

Input is data provided to a program by the user.

Programs use input to:

- Receive values
- Make decisions
- Perform calculations
- Interact with users

In Python, input allows programs to accept data while running.

2. What is Output?

Output is the information produced by a program and displayed to the user.

Output helps users:

- See results
- Understand program behavior
- Verify correctness

Displaying output is essential for interactive programs.

3. Input in Python

Python takes user input using a built-in function.

Important points:

- Input is always received as **text (string)**
- Even numbers entered by the user are treated as strings
- Conversion is required for calculations

Understanding this behavior is critical for correct programs.

4. Output in Python

Python displays output using a built-in function.

Output can be:

- Text messages
- Variable values
- Results of calculations

Output formatting helps make results clear and readable.

5. Type Conversion

Since user input is received as a string, it must be converted when:

- Performing arithmetic operations
- Making numeric comparisons

Common conversions include:

- Text to integer
- Text to decimal number

Failure to convert input correctly can cause runtime errors.

6. Combining Input and Output

Input and output are often used together to:

- Ask users for values
- Process the values
- Display the result

This interaction forms the basis of most beginner programs.

7. Common Mistakes with Input and Output

Beginners often face these issues:

- Forgetting input is a string
- Not converting input before calculations
- Incorrect output formatting
- Confusing input and output order

Careful handling avoids logical and runtime errors.



Summary

- Input allows user interaction
- Output displays results
- Python input is always a string
- Type conversion is necessary for calculations
- Input and output are essential for interactive programs