

Introduction to Python: Basics #1

Introduction to Python - Basics #1

Python is a high-level, beginner-friendly programming language used in robotics, automation, game development, and artificial intelligence. It is known for its **simple and readable syntax**, making it a great first language for learning programming.

1. Printing Output in Python

One of the first things you'll do in Python is **display text on the screen** using the `print()` function.

```
print("Hello, World!")
```

Output:

```
Hello, World!
```

- `print()` is used to **display messages** in Python.
- Text must be inside **quotation marks** (" " or ' ').
- Every statement in Python runs from **top to bottom**.

2. Taking User Input

Python allows users to **enter data** using the `input()` function:

```
name = input("Enter your name: ")  
print("Hello, " + name + "!")
```

Example Output: If the user types Hannah, the output will be:

Hello, Hannah!

- The `input()` function takes user input as a **string**.
- We can use `+` to **concatenate** (join) text together.

3. Variables and Data Types

In Python, a **variable** is used to store values, such as numbers or text:

```
age = 15
height = 5.7
name = "Hannah"
```

Common Data Types:

- `int` → Whole numbers (e.g., 10, 25, 42).
- `float` → Decimal numbers (e.g., 3.14, 7.89).
- `str` → Text (e.g., "Hello", "Python").
- `bool` → True/False values (e.g., True, False).

4. Type Conversion

When using `input()`, Python always treats the input as a **string**. To use numbers, we need to **convert the type**:

```
age = input("Enter your age: ") # Input is stored as a string
age = int(age) # Convert to integer
print("Next year, you will be " + str(age + 1) + " years old!")
```

- `int()` → Converts a string to an integer.
- `float()` → Converts a string to a decimal number.
- `str()` → Converts numbers back to text.

Now that you've learned the basics, try answering the questions below! 🙋

1. What will the following code output?

```
print("Hello, World!")
```

- ☒ A. Hello, World!
- ☐ B. hello world
- ☐ C. "Hello, World!"
- ☐ D. An error

Submit

✓ **Correct! Well done!**

2. Which function allows a user to enter input in Python?

- ☐ A. print()
- ☒ B. input()
- ☐ C. get()
- ☐ D. scan()

Submit

✓ **Correct! Well done!**

3. Which of the following correctly stores user input in a variable?

- ☒ A. name = input()
- ☐ B. input(name)
- ☐ C. name == input()
- ☐ D. print(input(name))

Submit

✓ **Correct! Well done!**

4. What will the following code output?

```
name = "Alex"  
print(name)
```

- ☒ A. Alex
- ☐ B. "name"
- ☐ C. name
- ☐ D. Nothing

Submit

✓ **Correct! Well done!**

5. What data type is stored in the variable `user_age`?

- ☐ A. int
- ☐ B. float
- ☒ C. string
- ☐ D. boolean

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✓ **Correct! Well done!**

6. What symbol is used for writing comments in Python?

- ☐ A. //
- ☒ B. #
- ☐ C.
- ☐ D. **

Submit

✓ **Correct! Well done!**

7. Which of the following is a valid variable name in Python?

- ☐ A. 1stName
- ☒ B. first_name
- ☐ C. first-name
- ☐ D. print

Submit

✓ **Correct! Well done!**

8. How do you convert user input to an integer in Python?

- ☐ A. str(input())
- ☒ B. int(input())
- ☐ C. input(int)
- ☐ D. input().int()

Submit

✓ **Correct! Well done!**

9. What happens if you try to add an integer and a string in Python?

- ☐ A. The numbers will be added together.
- ☐ B. The string will be converted to a number.
- ☒ C. An error will occur.
- ☐ D. The string and number will be printed together.

Submit

✓ **Correct! Well done!**

10. What will happen if you forget parentheses in ``print "Hello"'`?

- ☐ A. It will print "Hello" correctly.
- ☐ B. It will print ``Hello`` without quotes.
- ☒ C. It will cause a syntax error.
- ☐ D. It will automatically correct the mistake.

Submit

✓ **Correct! Well done!**