

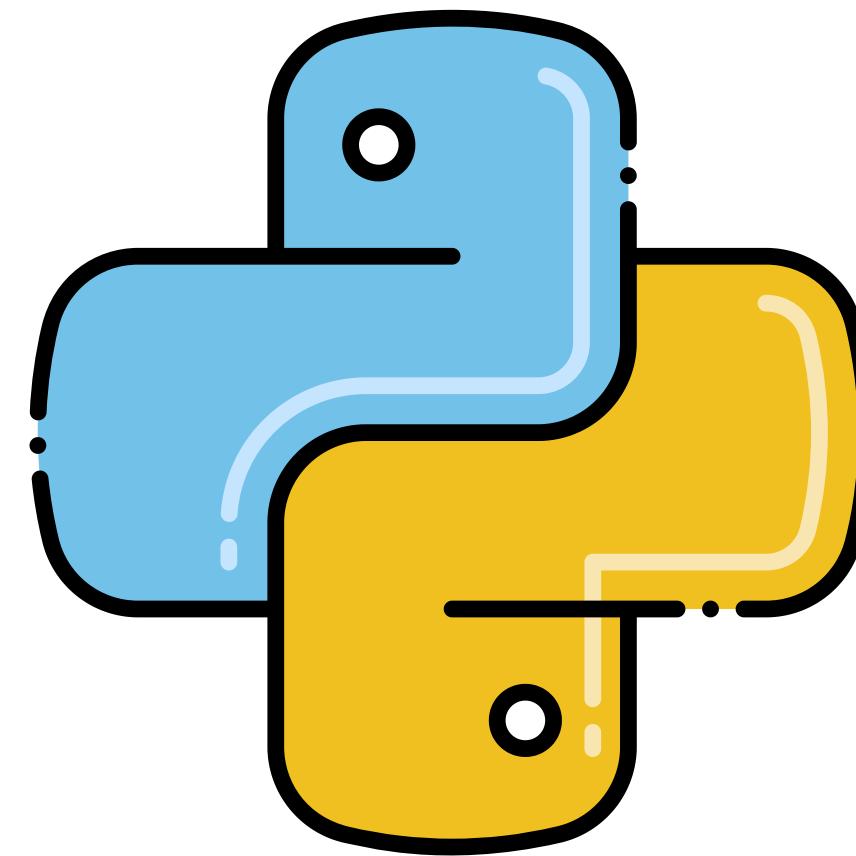


Learn Ai

Python Series

Lecture no 1

What is Python?



- Simple and beginner-friendly
- Free and Open Source
- High-Level Programming Language
- Portable (runs everywhere)
- Created by Guido van Rossum

Our First Python Program

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



Python Character Set

- Letters: A–Z, a–z
- Digits: 0–9
- Special Characters: +, −, *, /, %
- Whitespaces: spaces, tabs, newlines
- Unicode/ASCII characters





Variables

A variable is a name given to a memory location in a program.

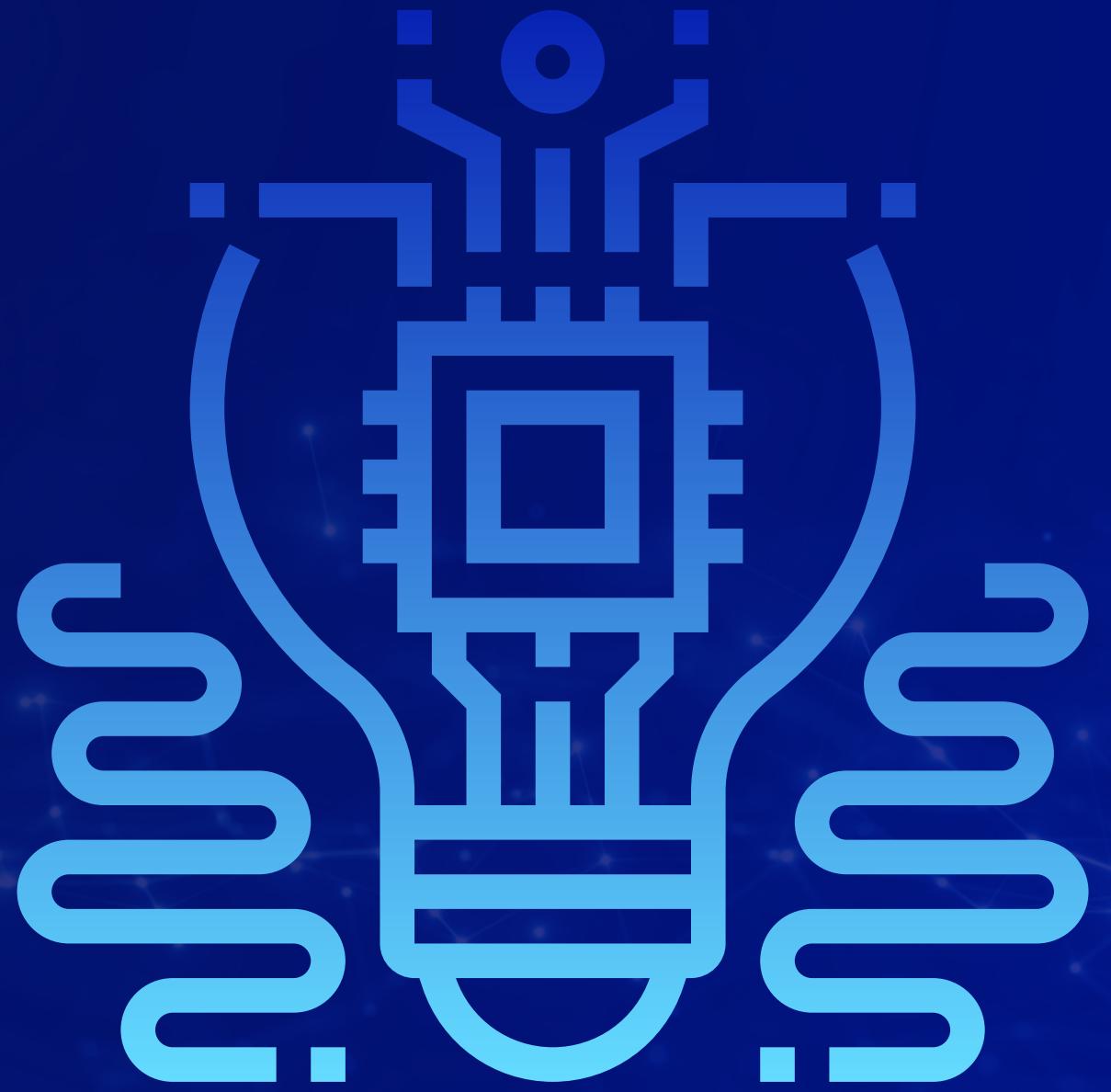
```
name = "Ali"
```

```
age = 20
```

```
price = 99.99
```

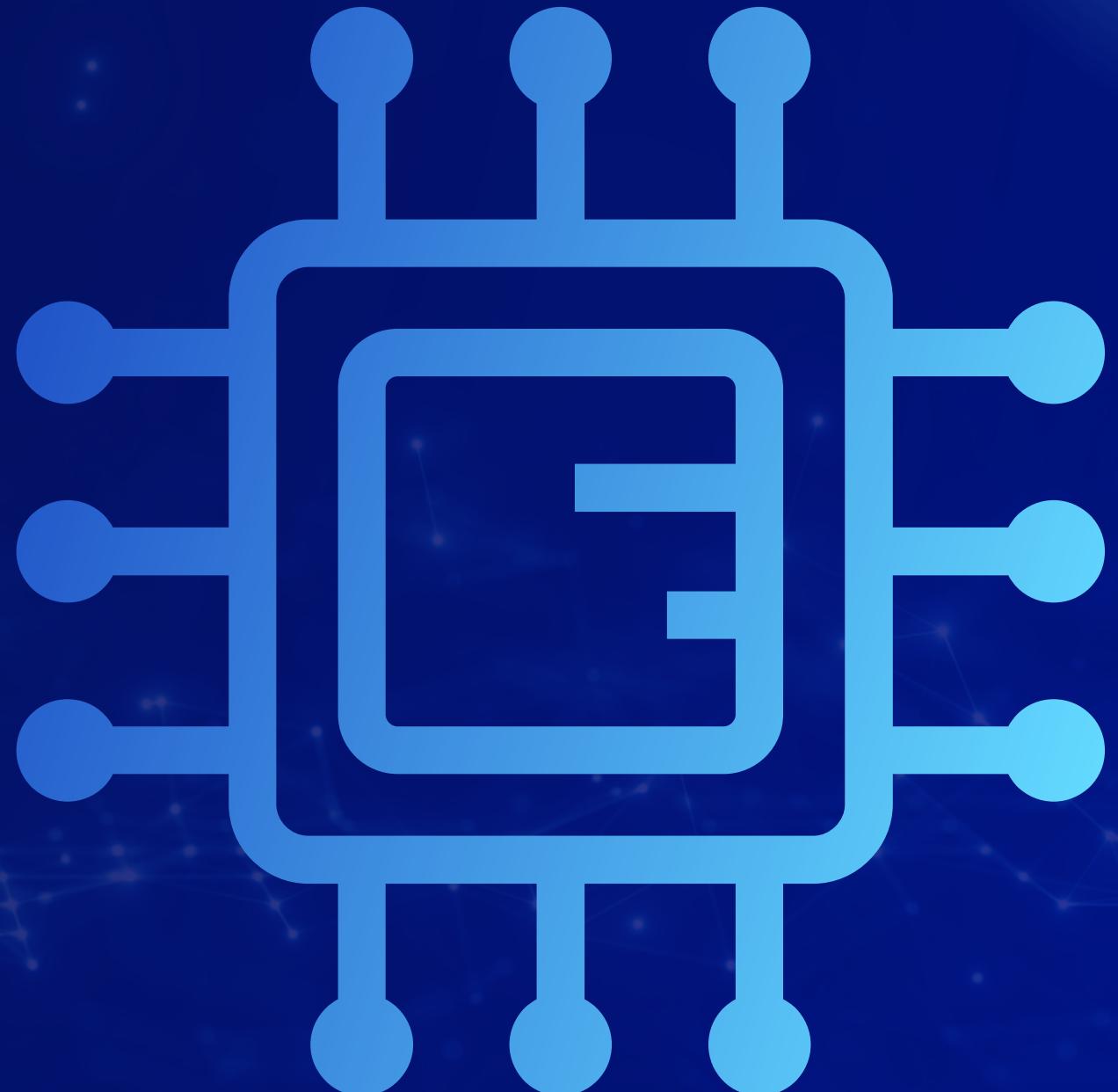
Rules for Identifiers

- Must begin with a letter or underscore _
- Cannot start with a digit
- Can contain letters, digits, and underscores
- No spaces or special characters
- Can't use keywords as names



Data Types

- Integer: 10, -5
- Float: 5.5, 99.99
- String: "Hello"
- Boolean: True, False
- None: None



Keywords



- Keywords in Python are special words that have predefined meanings and functions in the Python language.
- You cannot use keywords as variable names because Python uses them to understand what you want the program to do.
- Just like True, False, None if, else etc.

Operators

Arithmetic: +, -, *, /, %, **

Relational: ==, !=, >, <, >=, <=

Assignment: =, +=, -=, etc.

Logical: and, or, not



Comments in Python

Comments in Python are lines in the code that the computer ignores. They are used to explain what your code does or to leave notes for yourself or others.

Key Points:

- Comments make your code easier to understand.
- Python does not run comments – they are just for humans.
- A single-line comment starts with a `#` symbol.
- A multi-line comment starts with a `'''` or `"""` symbol.



Type Conversion

Type Conversion is the process where Python automatically changes the data type of a value when needed.

It happens without the programmer doing anything.

```
x = 2 + 3.5 # Python converts 2 (int) to 2.0 (float)
```

```
11 Capybara.javascript_driver = :webkit
12 Category.delete_all; Category.create
13 Shoulda::Matchers.configure do |config|
14   config.integrate do |with|
15     with.test_framework :rspec
16     with.library :rails
17   end
18 end
19 end
20 # Add additional requires below this line according to your application requirements
21 # Requires supporting files with matching class names like this:
22 # support/navigation.rb
23 # support/categories.rb
24 # support/categories_spec.rb
25 # support/categories_helper.rb
26 # support/categories_helper_spec.rb
27 # support/categories_steps.rb
28 # support/categories_steps_spec.rb
```

Type Casting

- Type Casting is when the programmer manually changes the data type of a value using built-in functions like `int()`, `float()`, or `str()`.
- `x = int("5") # changes the string "5" into an integer 5`



User Input

- User input is when a program asks the user to type something (like their name, age, etc.), and the program uses that input.
- In Python, we use the `input()` function to get input from the user.

```
name = input("What is your name? ")  
print("Hello, " + name)
```



Practice Questions

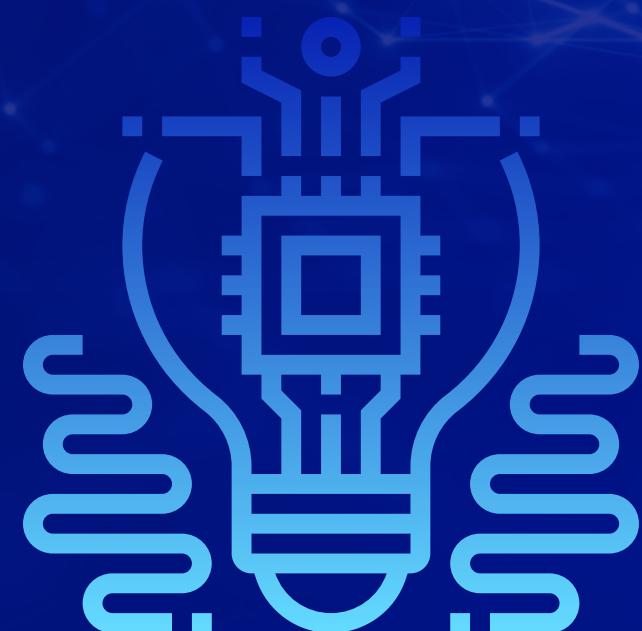
- Take two numbers from the user and print their sum.
- Input the side of a square and print its area.
- Input two numbers and print their average.
- Input two numbers and print which one is greater or if they are equal.
- Input three numbers and print their total and average.
- Input the radius of a circle and print its area.
- Input length and width, then print the perimeter of a rectangle.
- Convert Celsius temperature to Fahrenheit.
- Convert minutes into hours and minutes.
- Convert inches into centimeters.
-





Practice Questions

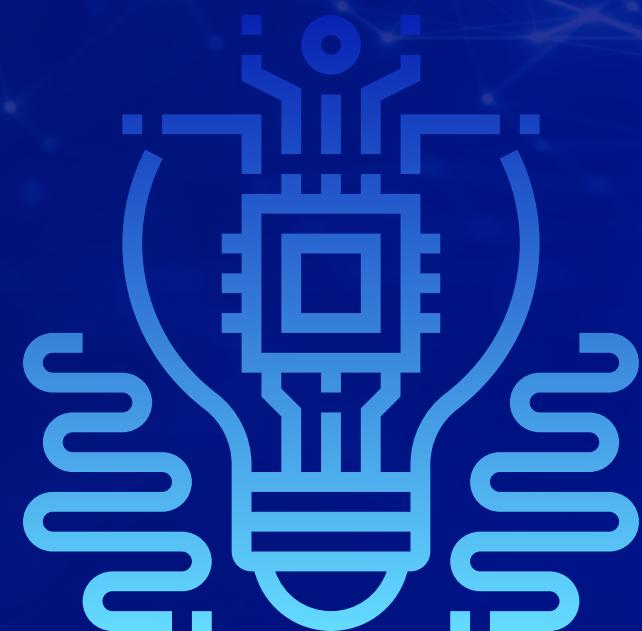
- Ask the user to enter a number and check if it is even or odd.
- Check whether a number is positive, negative, or zero.
- Ask for the user's age and check if they are eligible to vote (18+).
- Ask the user for two numbers and check if they are equal.
- Get a number from the user and print only its last digit.





Practice Questions

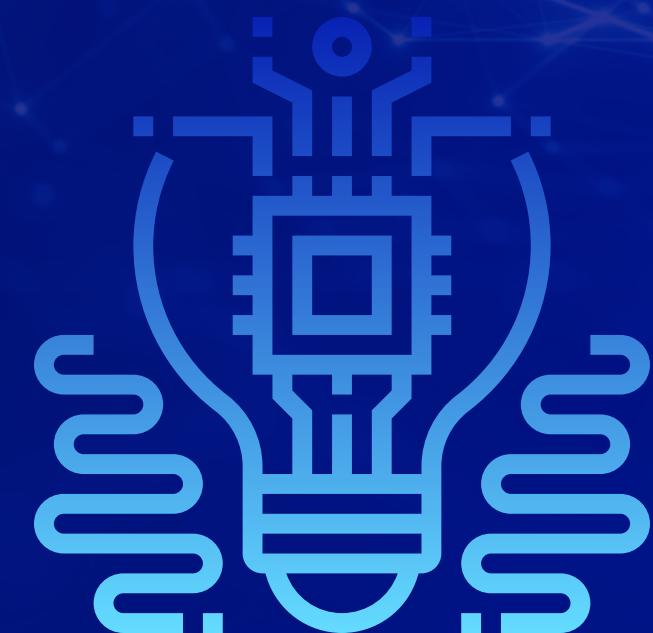
- Take a string input "5", convert it to integer, and multiply it by 2.
- Input a number as a float and convert it to an integer.
- Swap two numbers entered by the user.
- Ask for the user's name and greet them with it.
- Input a float number and print it as a string.





Practice Questions

- Calculate the simple interest (Input principal, rate, and time).
- Input the side of a cube and print its volume.
- Input a total number of days and print it in weeks and days.
- Input weight in kilograms and convert it to grams.
- Input total money and break it into 100, 50, 20, and 10 currency notes.



Summary

Python is beginner-friendly and powerful
You learned: print(), variables, data types, input/output, type casting,
operators, and comments
Practice is key to mastering Python