

Python From Scratch to OOP

Nasa Space Apps Port Said

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Session 1

Python Fundamentals



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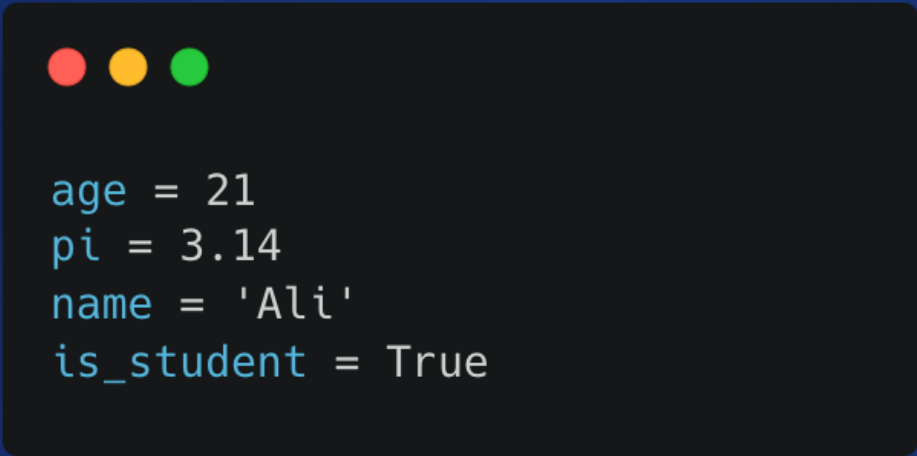


Introduction to Python

- **What is Python?**
- **Why is Python so popular?**
- **Applications:** Web, Data Science, AI, Automation, etc.
- **First Program:** `print('Hello, Python!')`

Variables & Data Types


- Variables store data
- Data types: int, float, str, bool
- Example:



```
age = 21  
pi = 3.14  
name = 'Ali'  
is_student = True
```

Input & Output


- **Example:**



```
1 name = input('Enter your name: ')\n2 Print ('Hello', name)
```

Operators

- **Arithmetic:** + - * / // % **
- **Comparison:** == != > < >= <=
- **Logical:** and, or, not
- **Example:**



```
1 a, b = 7, 3
2 print(a+b, a//b, a**b)
```

Conditions

if/elif/else

IF

Yes

No

Conditions


Example:



```
1 grade = 85
2 if grade >= 90:
3     print('Excellent')
4 elif grade >= 60:
5     print('Passed')
6 else:
7     print('Failed')
```

Loops

for loop Example:



```
1  for i in range(1, 6):  
2      print('Loop', i)  
3      num = 5
```

Loops

while loop Example:



```
1 while num > 0:  
2     print(num)  
3     num -= 1
```

Practice Tasks

1. Check if number is even or odd
2. Print numbers 1 → 100
3. Build a simple calculator
4. Multiplication table program



Thank You !

Your time and effort make a real difference.
Let's make this an unforgettable experience for everyone!

“Together, we build for Earth and beyond.”