

Python for AI — Beginners

Student Self-Training Guide · Grade 7+ · Module 5 of 10

1. Why Python?

Python is the most popular programming language for AI and Data Science. It is easy to read, easy to write, and has thousands of free AI tools (libraries) built by experts around the world.

2. Your First 10 Python Lines

```
# This is a comment - Python ignores it
print("Hello, AI World!")
name = "Priya"           # a text variable
age = 14                 # a number variable
print("My name is", name)
numbers = [10, 20, 30, 40] # a list
print(sum(numbers))     # prints 100
for n in numbers:
    print(n * 2)        # doubles each number
print("AI learning started!")
```

3. Key Python Concepts for AI

Concept	What it does	AI use
Variables	Store data	Store model results
Lists	Store many values	Store datasets
Loops	Repeat code	Process thousands of rows
Functions	Reusable code blocks	Build AI pipeline steps
Libraries	Pre-built tools	numpy, pandas, sklearn

4. The 3 Most Important AI Libraries

- NumPy — handles numbers and maths at high speed.
- Pandas — organises and cleans data in tables (like Excel, but powerful).
- Scikit-learn — 30+ ready-made AI models you can use in 5 lines of code.

5. Where to Practice Free

- Google Colab (colab.research.google.com) — free Python in your browser.
- Kaggle (kaggle.com) — free notebooks + real AI datasets.
- W3Schools (w3schools.com/python) — step-by-step Python tutorial.

CHALLENGE

Open Google Colab, type the 10 code lines above, and press Run. Once it works, change "Priya" to your own name and run again.

