

# Class-01: AI-101 | Python Fundamentals for AI in Google Colab

Why we use Python?

Easy

Popular

AI default language python hai

Most language is use in Gen AI is python

Talk with computer language

Web department main javascript and typescript use

What is Google colab?

Google Colab (Colaboratory) is a free, cloud-based Jupyter Notebook environment provided by Google that allows you to write and execute Python code in your browser. It's widely used for machine learning, data science, and general Python programming because it provides free access to GPUs and TPUs, making it ideal for running computationally intensive tasks.

Google Colab for easy to coding in browser live without installation python, packages and others software.

Google colab is environment who run jupyter notebook on free.

Google colab is hardware and jupyter notebook is software.

Class1.ipynb

I for indirective

Py for python

Nb for notebook.

Print ("hello world") result hello world

""" must be type for print message.

Print() for saying print function.

We also run separate code run in Jupyter notebook.

Favorite celebrity	Jackie chan
--------------------	-------------

Favorite name	Ali
---------------	-----

Favorite food	apple
---------------	-------

Variable like a box(variable),                      put item jar(value) in box,

Example

fav\_celebrity = "hamzah"

Print("fav\_celebrity")                      result                      fav\_celebrity

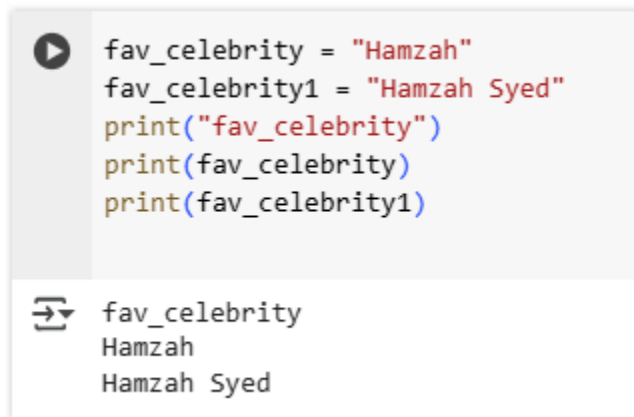
Print(fav\_celebrity)                      result                      hamzah

Variable                      =                      value

Space not accepted space between fav celebrity.

Fav\_celebrity = first word not accepting capital letter F in variable.

fav\_Celebrity    = capital C is not accepting due to out of conversation.



```
fav_celebrity = "Hamzah"
fav_celebrity1 = "Hamzah Syed"
print("fav_celebrity")
print(fav_celebrity)
print(fav_celebrity1)
```

fav\_celebrity  
Hamzah  
Hamzah Syed

Memory where your variable save in your computer

2<sup>nd</sup> Class online

### What Will You Learn in This Session?

- Concatination
- F string
- Doc String
- Arthmatic operators (+, -, \*, /, //, %, \*\*)
- Assignmets

 Tools & Technologies Covered: Python Google Colab Jupyter Notebook

Number and integer

Int

Float

Complex

```
Example
name = "najam"
number = 9
number = 9.9
print(name)
print(number)
print(type(name))
print (type(number))
```

result najam

9

<class 'str'> show the type of name as string

<class 'int'>show type integer (whole number its integer)

<class 'float'>show type float (float for decimal)

F string

Concatination To merge two string or more string in print message with f string

F"message", variable name

F"message (variable name)"

```
print (f"my name is {name}", name)
result my name is najam najam
```

- **Doc String**

```
paragraph print in multiples lines
```

```
paragraph = """My name is najam,  
I am developer,  
How to print it in second line?"""  
print(paragraph)
```

```
My name is najam,  
I am developer,  
How to print it in second line?
```

# show the comments but python not read.

Assignment

✓  
0s



```
name = "najam"  
print (f"hi {name}")  
  
paragraph = """you got a free coupon  
best regards  
Hamzah """  
print(paragraph)
```



```
hi najam  
you got a free coupon  
best regards  
Hamzah
```

- **Arithmetic operators (+, -, \*, /, //, %, \*\*)**



```
# addition  
item1 = 22  
item2 = 33  
result = item1 + item2  
print("addition:", result)
```



```
addition: 55
```

✓  
0s



# subtraction

```
item1 = 22
item2 = 33
result = item1 - item2
print("subtraction:", result)
```



subtraction: -11

✓  
0s



# Multiplication

```
item1 = 22
item2 = 33
result = item1 * item2
print("multiplication:", result)
```



multiplication: 726

✓  
0s



# Division

```
item1 = 39
item2 = 3
result = item1 / item2
print("Divison:", result)
```



Divison: 13.0



# modulus

```
item1 = 10
item2 = 3
result = item1 % item2
print("Modulus:", result)
```



Modulus: 1

```
#exponent
num1 = 5
print (num1 ** 2)
```

⇒ 25

## Assignment

12 faculty members

4 administrative staff members

100 students in class

15 peoples absent

Per person rabri is 250 gram.

First question total number of people attending in event

Second question amount of rabri in grams

Third question amount of rabri in Kilograms

```
faulty member = 12
administrativestaff = 4
students = 100
peopleabsent = 15
rabri person = 250
rabri price = 1100

result = faulty member + administrativestaff + students - peopleabsent
print("total number of people attending", result)

result = rabri price / 4
print("rabri price in grams:", result)

result = rabri price / 4 * 4
print("rabri price in Kilogram:", result)
```

⇒ total number of people attending 101  
rabri price in grams: 275.0  
rabri price in Kilogram: 1100.0



```
faulty = 12
admin = 4
students = 100
absent = 15
rabiper_person = 250

total_members = faulty + admin + students
print(f"total Members is PIAIC {total_members}")
total_absent = total_members - absent
print(f"total Members present is PIAIC {total_absent}")
print(f"total rabi in grams: {total_absent * rabiper_person}")
print(f"total rabi in kilograms: {total_absent * rabiper_person // 1000}")
```



```
total Members is PIAIC 116
total Members present is PIAIC 101
total rabi in grams: 25250
total rabi in kilograms: 25
```