

# PYTHON PROGRAMMING

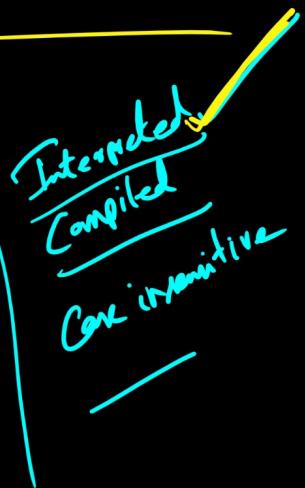
## GATE DA/DSA

Agenda:

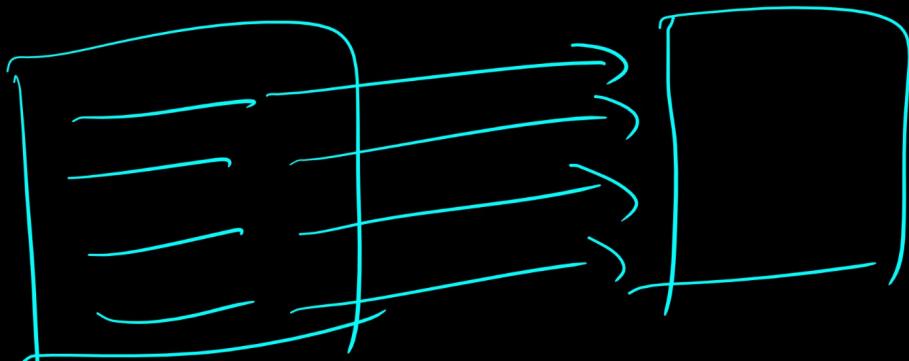
- Modules ✓
- Main function in Python
- Types of Errors in Python. ✓
- Exception Handling

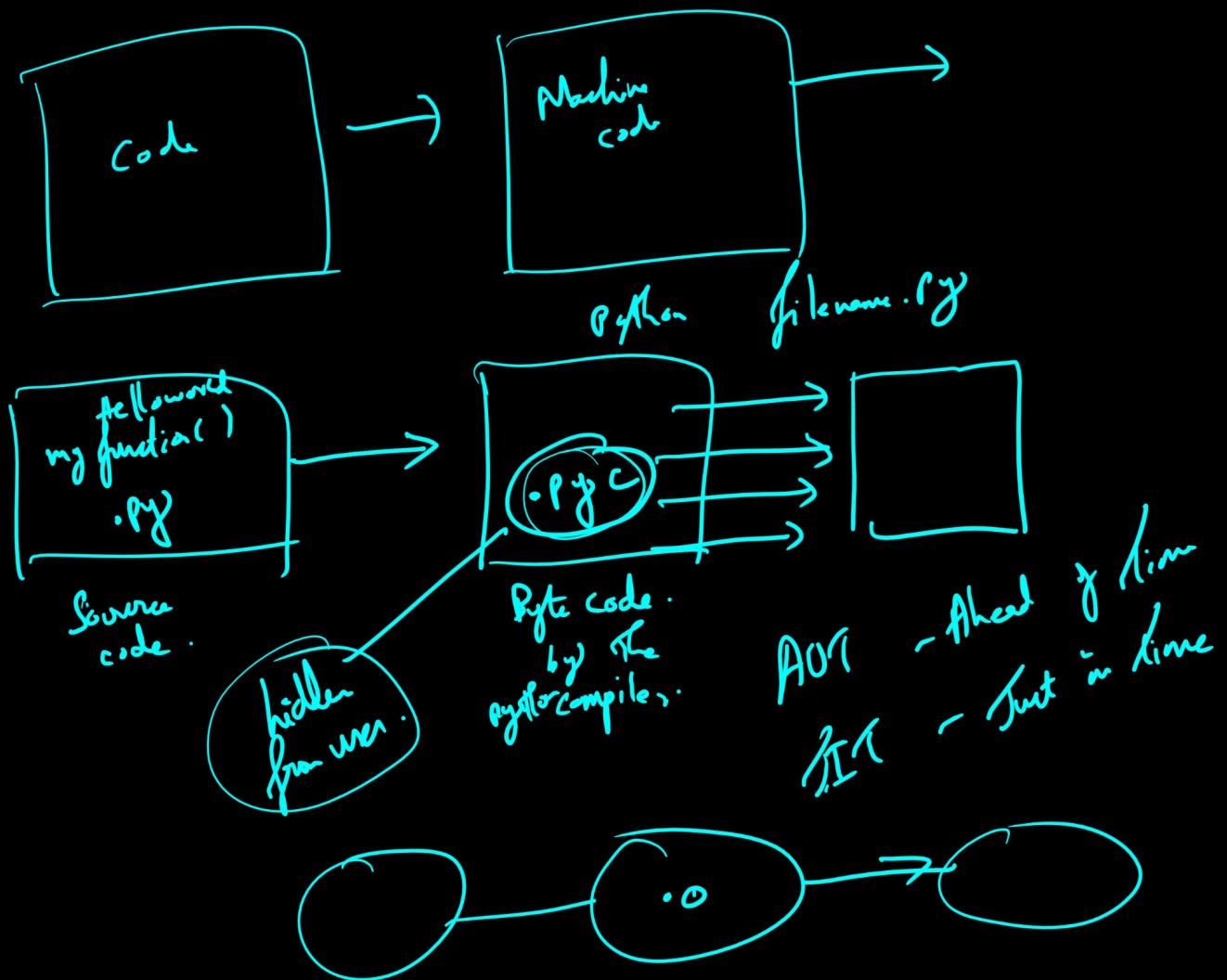
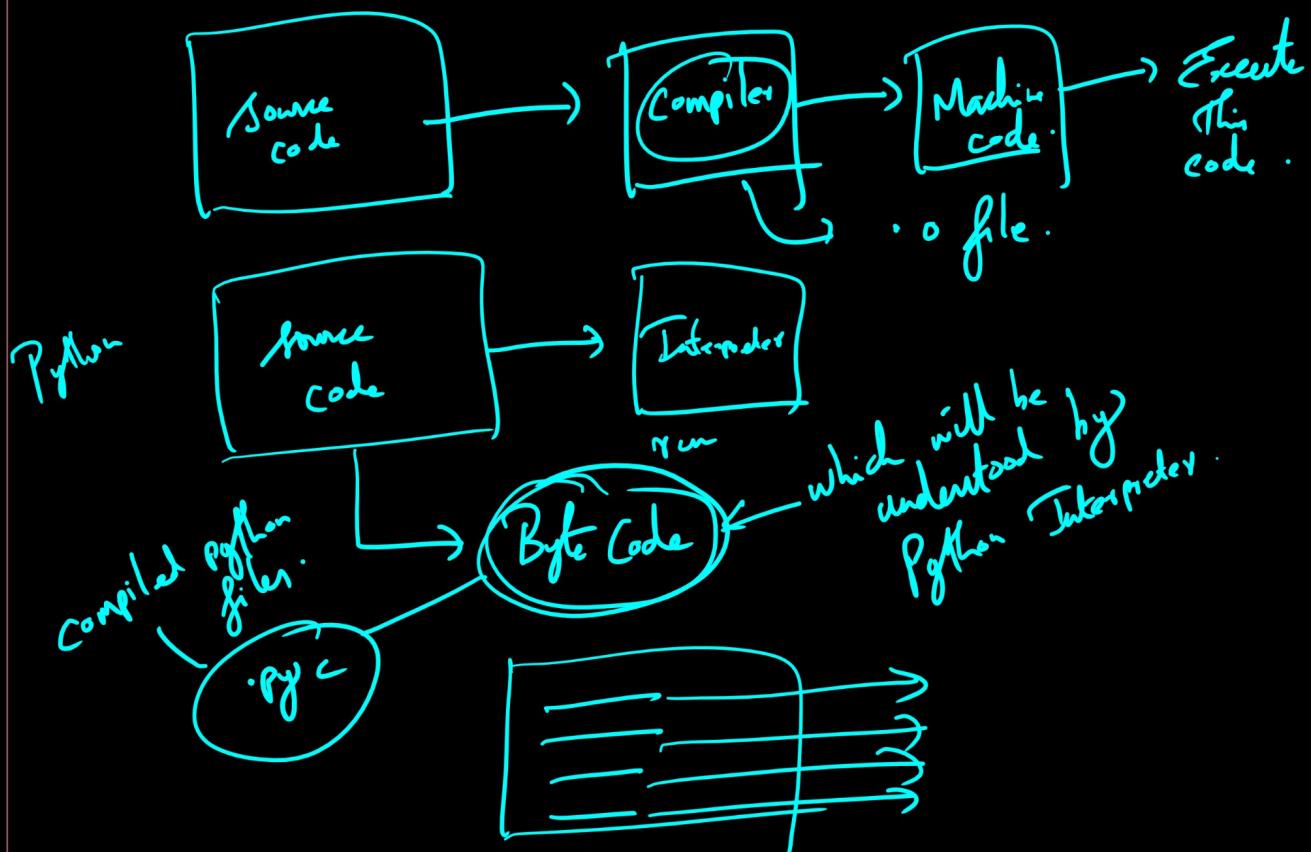
Python is — language?

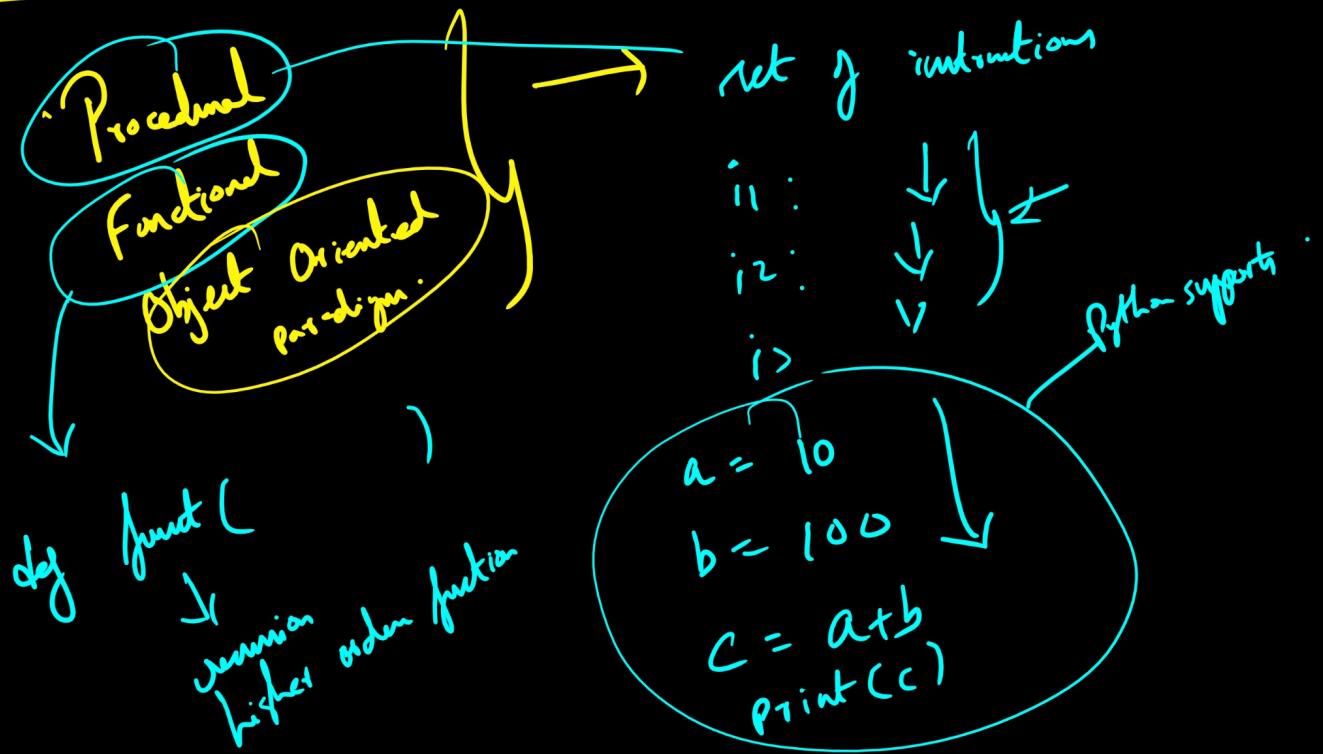
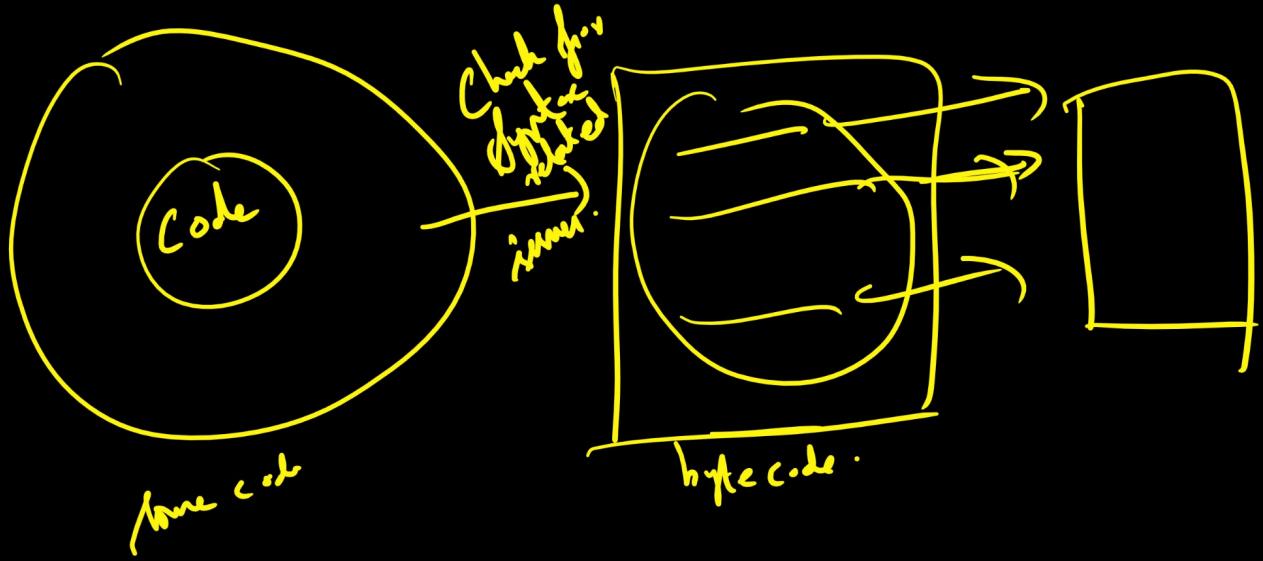
- a) Interpreted
- b) Both Compiled & Interpreted ✓
- c) Neither Compiled nor Interpreted
- d) None of these.



Ans: b → both compiled & interpreted.







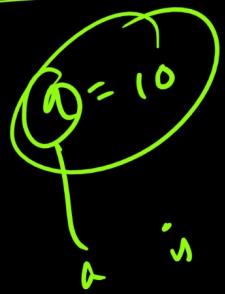
$a = 10$   
 $b = 100$

```

def add(a,b):
    return a+b
  
```

$f = \lambda(a,b):$   
 $\#$  some operations.  
 $\text{return } \underline{\quad}$

## Object oriented programming:



College      Administrators :

College-name<sup>-1</sup> = "Anna University", "EEE", "ECE",  
 College-name<sup>-1</sup>-subjects = {"CS", "ME"}  
 College-name<sup>-2</sup> = "IIT Madras"  
 College-name<sup>-2</sup>-subjects = {"CS", "DA", "Petroleum", "EEG"}

Class College :

def \_\_init\_\_(self) :

name = self.name

subjects = self.subjects

C1 = College ('Anna University', [ ])

C2 = College ('IIT Madras', [ ])

C1.name → Anna University

C1.subjects → ([ ])

## C1. Subject: append ( )

### Modules in Python:

- \* A module in Python is a file that contains a collection of related code, functions and variables that can be used to perform specific tasks.
- \* Modules are a way to organize and reuse code, making it more efficient and manageable.



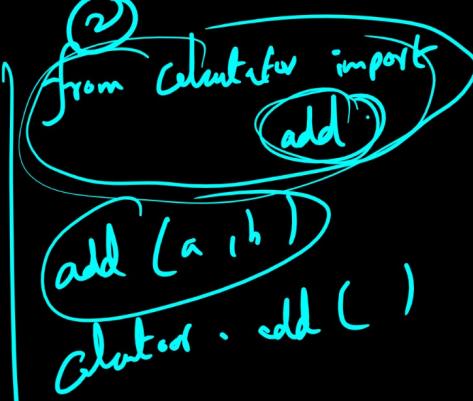
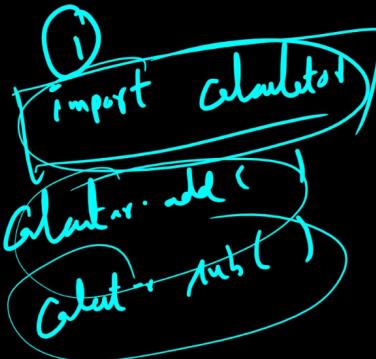
- \* Modules can be used by using an **"import statement"**.
- \* Renaming a module: → Use '**as**' Keyword.  
import Calculator as calc.

## Calculator.py

```
def add(1):
```

```
def sub(1):
```

```
def mul(1):
```



## main function:

`__name__` is a special variable managed by Python  
and it will be automatically set its value to "`__main__`"  
if the script is being run directly.

firstProj.py

```
import secondProj
__name__ = "__main__"
```

secondProj.py

```
__name__ = "Second Proj"
```

W

# Types of Errors in Python:

1. **Syntax Error:** This error occurs when there is a problem with the syntax of the code such as missing colon or a mismatched bracket or some variable naming issues.
2. **Indentation Error:** This error occurs when the indentation of the code is incorrect, such as inconsistent use of tabs and spaces.
3. **Type Error:** This error occurs when a value is not of expected type, such as trying to use a string as a number.
4. **Value Error:** This error occurs when a value is not within the expected range or format, such as trying to convert a string to an integer.
5. **ZeroDivisionError:** This error occurs when trying to divide a number by 0.
6. **NameError:** This error occurs when a variable is not defined.

7. Attribute Error: This error occurs when trying to access an attribute / method that doesn't exist.

8. Index Error: When you are trying to access the index that is out of range, then index error occurs.

Exception Handling: It allows you to gracefully handle errors and exceptions that may occur during the execution of code.

try: The try block is used to enclose the code that might raise an exception. It's like a safety net that catches any errors that might occur.

except: The except block is used to handle the exception raised in try block. You can specify the type of exception that you want to catch.

finally: The finally block is used to execute the code regardless of whether an exception is raised or not.

else: The else block is used to execute code when no exception was raised in the try block.

It's like indicating a 'tracer' in try block.

