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To-Do:

- Modules in python
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Modules in python:

- A module in python is a file containing definitions of functions, classes and variables.
- Helps organize code in separate files so that programs become easy to maintain and reuse.
- In modules we group similar functionality programs together so that we can access them quickly and easily without having to import everything.

→ Create a Python Module

- ◆ To create module, just write the desired code in a .py file extension
- ◆ Example:

```
#calc.py
def add(x,y):
    return(x+y)
```

→ Import Module

- ◆ Modules can be used in another python files using the import statement.
- ◆ Syntax:
 - `import module`
- ◆ Example:
 - `import calc`
`print(calc.add(3,4))` #import calc loads the module and calc.add() accesses a function through dot notation.

→ Types of Import Statement

- ◆ Import from module
This allows importing specific functions from the module
 - Example:
 - `from calc import add`
`print(add(3,4))`
- ◆ Import all names
* imports everything from a module
 - Example :
 - `from calc import *`
- ◆ Import with alias
You basically give a nickname to the module, so that u dont have to write that module name again and again.
 - Example :

- Import calc as m
print(m.add(8,9))

→ Types Of Modules:

◆ Built in modules:

These come bundled with python and require no installation- eg., math, random, os.

- Example:
 - import random
print(random.randint(1,5)) # random.randint() returns a random number within the given range.

◆ User defined modules:

These modules we create by ourselves.

- Example:
 - Import calc
print(calc.add(7,7))

◆ External modules:

These modules are installed using pip- eg., Numpy, Pandas, Requests.

- Example:
 - import requests
R = requests.get("https://exmaple.com")
print(r.status_code) # provides HTTP utilities

◆ Package modules:

A package is a directory containing multiple modules, usually with a `__init__.py` file.

- Example directory:
 - mypackage/
 __init__.py
 calc.py
 utils.py
 - from mypackage import calc
print(calc.add(4,6))