

Python Notes.

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* Python Modules:-

Definition:- Modules refer to a file containing Python statements and definitions

- A module can define functions, classes and variables.
- A module can also include runnable code.

* A file containing Python code, for example: example.py, is called a module, and its module name would be example.

Example:- Let us create, a module, type the following and save it as: example.py.

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

→ We can define our most used functions in a module and import it, instead of copying their definitions into different programs.

add() ← function defined inside a module named example.

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* Need of Module :-

- Python has the feature of module in which programmer can put definitions in a file and use them in a script.
- The definitions written inside a module can be imported into the main module by using the import command.

* Creating a Module :-

- from the interpreter.
- from another script file.

A module is simply a Python file with a .py extension that can be imported inside another Python Program.

The name of the Python file becomes the module name.

Example:- Lets create a simple module called jp.

JP.py

```
def Hello():  
    print("jpwebdevelopers")
```

```
location = "Malout"
```

The above example shows the creation of a simple named "jp" -> name of the Python file is jp.py

* Import Module:-

To use the above created module, create a new Python file in the same directory and import jp module using the import statement

example
import jp ← keyword
jp.hello()

print(jp.location)

Output

jpwebdevelopers
Malout

- > We use the import keyword to do this.
- > To import our previously defined module jp.

import jp

* Importing Modules:-

We can import a module using the import statement followed by module name to be imported.

It can access the definitions inside it using the dot operator.

example:

```
import math
print("value of pi is", math.pi)
```

Output

value of pi is 3.14159265

* import with renaming:-

We can import a module by renaming it as follows:-

```
import math as m
print("The value of pi is", m.pi)
```

→ We have renamed the math module as m.

* Python `from` import Statement

We can import specific names from a module without importing the module as whole.

example:- # import only pi from math module

```
from math import pi
print("The value of pi is", pi)
```

* import all names

We can import all names (definitions) from a module.

Example:- `from math import *`
`print("The value of pi is", pi)`