

```
In [ ]: 1 ### Literate Programming
        2 - Programming along with documentation
        3 - maintaining notes
```

```
In [1]: 1 coding/programming
        2 - we provided the solution for the given question/task
        ...
```

```
In [2]: 1 interlinked python file
        ...
```

```
In [1]: 1 python julia html R and matlab languages
        ...
```

```
In [2]: 1 ##
        2 Chapter Name
        3 Headings
        4 Sub headings
        5 paragraphs/description
        6
        ...
```

# heading1

## Heading2

### heading3

#### heading4

*python*

**vemu college**

I am *Italic*

I am **Bold text**

I am ***Bold italic*** in this line

I am *italic*

I am **bold** in this sentence

I am ***bold italic***

## Python

- It is a general purpose, high level and interpreted language
- It is semi-object oriented programming language

- General purpose
  - It is used for many purposes
- high level language
  - user understandable language
- interpreted language
  - it gives us the line by line execution
- **Features of Python**
  - Simple to learn and easy to code
  - it is syntax free
  - it is case sensitive and space sensitive
- similar to English language
- words,user convient
- **Need of Python**
  - Scientific Computation
  - Integrations,derivations,logorithms,exponentials etc..
  - it is the build block of all current running technologies such as
    - Data Science, Cloud Computing,Web development,application s/w, system s/w
    - Machine Learning,Robotics, IOT etc...
  - C language is used to design the Operating System
  - Java accesories--
  - Python running.

```
In [4]: 1 # write a python program to print "welcome to python"
        2 # single line comments
        3 '''
        4     ---- mutliple line comments
        5 '''
```

...

```
In [5]: 1 # line by line
        2 # is used to display the message on screen
        3 print("double quotations") # text, new line
        4 print('single quotations') # text
```

double quotations  
single quotations

```
In [7]: 1 # "welcome to python"
        2 print("Welcome to Python")
        3 print('Welcome to Python')
```

Welcome to Python  
Welcome to Python

```
In [24]: 1 # write a python program to add 2 no.s
        2 # 4+6=10 value which is integer
        3 print("4+6098u874bnfhfuiyfdjdfkjiglihjdusdfjkdifikjd") # text,string
        4 print('4+6') # string/text
        5 print(4+6) # value integer
```

4+6098u874bnfhfuiyfdjdfkjiglihjdusdfjkdifikjd  
4+6  
10

```
In [13]: 1 5+10 # returns value to the processor/kernel
```

Out[13]: 15

```
In [14]: 1 print("started with double quotes and ended with single quotes")
```

File "<ipython-input-14-a0b2ec8270f7>", line 1

```
    print("started with double quotes and ended with single quotes")
```

**SyntaxError:** EOL while scanning string literal

## Errors in Python

- Error is an invalid statement in program
- 3 types
  - Syntax Error
    - Error is related to Syntax
  - Type Error and
    - Error related to type or value
  - Indetation Error
    - Error related to space

```
In [15]: 1 # arithmetic operations on numbers
        2 # "example": can you subtract your lastname from your full name:
        3 9-45
```

Out[15]: -36

```
In [16]: 1 "45"+45 # type error
```

...

## Variables in Python

- A variable is a container that stores the data/vallue
- No type declaration in python
- num=45 # integer
- name="ruthu" # string
- multi variable assignment
- multi value assignment

```
In [19]: 1 x=10
        2 y=10
        3 z=15
        4 print("value of x" x) # separate the outputs by ' '
```

value of x 10

```
In [20]: 1 print("value of x",x) #
```

```
value of x 10
```

```
In [21]: 1 print(z)
```

```
15
```

```
In [22]: 1 x,y,z=10,10,15 # mutliple assignments in single line
2 print("value of x",x)
3 print('value of y',y)
4 print(z)
```

```
value of x 10
```

```
value of y 10
```

```
15
```

```
In [23]: 1 # mutli variable assignments to a single value
2 f=s=th=10 # it is possible
3 print("first is ",f)
4 print("second is ",s)
5 print("third value is " ,th)
```

```
first is 10
```

```
second is 10
```

```
third value is 10
```

```
In [ ]: 1
```