Speed16 Academy

- **Vedic Maths & Python (Paperback, eBook, Video Course, Workbook & Online Interactive Training)**
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WHY?

Why we need to Learn Programming Languages?

Why can’t we Code in Natural Languages (English, Hindi, Marathi, Kannada etc.)

What is Python?

- Python is a general-purpose interpreted, interactive, object-oriented, and high-level programming language.

- It was created by Guido van Rossum during 1985- 1990.

Python Features

- Easy to Learn; Easy to Read and Easy to Maintain
- A Broad Standard Library and plethora of third party modules
- Interactive Mode
- Portable
- Extendible
- Databases
- GUI Programming
- Productivity and Scalable
- Automatic Garbage Collection
- It can be integrated with other Languages (C, C++, Java etc.)

Python Ecosystem

The Python ecosystem of **libraries, frameworks, and tools** is enormous and growing.

Ex: Smart Phone: Brand, Features, Reviews, Support, Service Centers etc.

Python is used for:

- Web Scraping
- Data Analysis
- Web Development
- Data Science
- Internet of Things Development (IoT)
- Machine Learning
- DevOps
- BlockChain (C++; Java; **Python**; Simplicity; Solidity)
- Mobile App Development (Kivy, BeeWare etc.)
- general scientific computing
- and many other computing and scripting uses.

- 5. Install Python in Windows/Linux
- 6. Install Eclipse in Windows/Linux
- 7. Python Shell

Hello World Program in Python

- print (‘Hello World’)
- print (“Hello World”)
- print (“““Hello World”””)

Python Identifiers

- A Python identifier is a name used to identify a variable, function, class, module or other object.
- An identifier starts with a letter A to Z or a to z or an underscore (_) followed by zero or more letters, underscores and digits (0 to 9).

Python Identifiers (Cont..)

- Python does not allow punctuation characters such as @, $, and % within identifiers.

- Python is a case sensitive programming language. Thus, **simple** and **Simple** are two different identifiers in Python.

Identifier Naming Convention

- Class names start with an uppercase letter. All other identifiers start with a lowercase letter.
- Starting an identifier with a single leading underscore indicates that the identifier is private.
- Starting an identifier with two leading underscores indicates a strongly private identifier.
- If the identifier also ends with two trailing underscores, the identifier is a language-defined special name.

Reserved Words / Keywords

import keyword; print(keyword.kwlist)

- Keywords are the reserved words in Python.
- We cannot use a keyword as variable name, function name or any other identifier.

['False', 'None', 'True', 'and', 'as', 'assert', 'async', 'await', 'break', 'class', 'continue', 'def', 'del', 'elif', 'else', 'except', 'finally', 'for', 'from', 'global', 'if', 'import', 'in', 'is', 'lambda', 'nonlocal', 'not', 'or', 'pass', 'raise', 'return', 'try', 'while', 'with', 'yield']

Lines and Indentation

- **Indentation (Tabs)**

Quotation in Python

- Single
- Double
- Triple

Comments and Docstring

- Comments (#)
- Single Line and Multi Line Comments
- DocString :“ ”

Blank Lines in Python

- A line containing only whitespace, possibly with a comment, is known as a blank line
- Python totally ignores Blank Line.

Waiting for User (input function)

- number = input(*"Enter the Number")*
- print(*"Entered Number is", number)*
- print(type(number))

- number = int(input(*"Enter the Number"))*
- print(*"Entered Number is", number)*
- print(type(number))

OutPut

```
Enter the Number99
Entered Number is 99
<class 'str'>

Enter the Number99
Entered Number is 99
<class 'int'>
```

Multiple Statements on a Single Line

- Use **;** to write multiple statements on a single line.

- Ex: a=10;b=20;print(a);print(b)

- O/P: 10 20

Multiple Statement Groups (Suits)

```
a=4


if(a<5):
    print("a is less than 5")
    print("Yes, a is less than 5")
    print("It is true that, a is less than 5")
```

Command Line Arguments

Giving Inputs:

- Variable Assignments
- Input Function: input()
- Command Line Arguments
- Files

Command Line Arguments

- import sys
  #System-specific parameters and functions.

- *Total Number of Arguments: len(sys.argv)*

- *List of Arguments: str(sys.argv)*

- sys.argv[0] :
  #Zeroth Argument is name of python file

Command Line Arguments

- What is sys.argv[0]?
- a = int(sys.argv[1])
- b = int(sys.argv[2])
- c = int(sys.argv[3])
- *In Eclipse: Run => Run Configuration => Arguments*

QUESTIONS?

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