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Python Training

What is Python and why is it popular?

Python is popular programming language.

Why python is popular =>

It is one of the most accessible languages because it has simplified syntax.

There are many frameworks and libraries are available like Django we are using.

It is more flexible to learn.

It supports multiple program paradigm like procedural, Object-oriented, Functional

These are all the major reason Python is so popular.

What are the differences between Python 2 and Python 3?

Python2 added multiple features like list comprehension, Unicode support and garbage collection.

Python also started supporting object-oriented programming from python2.

Python3 was removed redundancy while writing the code and eliminates some o the problems like error- handling.

Main difference is syntax (python3 syntaxes are different from phython2)

What is the difference between a tuple and a list in Python?

List and Tuple both are classes in python.

List is Dynamic so it can be modified whereas Tuple is static cannot be modified.

Because of its static nature tuple can be faster. Comparatively list has many built-in methods.

How do you create a dictionary in Python?

Dictionaries are mutable data structures and it stored key and value pair.

Ex: sampleDicPhone = { “brand” : “Andriod , “Os” : “Oxygen”, “Version” : “13”}

Another way to create Dictionary is,

DictionaryRating = dict( IOS = 1, Andriod = 2, Windows = 3 )

We can also get dictionary from JSON file.

What is a function in Python and how do you define one?

Function is a block of code which runs when it is called, and it is return a data result.

Function Definition:

def function\_name():

[function\_block]

Example

def function\_print():

print(“Welcome to the world of python”)

What is object-oriented programming (OOP) and how does it relate to Python?

OOP is based on conceptualization of objects which are data structures. Classes are templates of object and objects created from class. Objects can be interacted with each other by sending messages.

Python is a multi-paradigm, it supports OOP. OOp in python allows programmers to define data types and functions and to create reusable code.

How do you handle exceptions in Python?

Exceptions are raised when the program is syntactically correct and program results an error.

Try…. except Block

Syntax

Try:

Code block

Except:

Code block

Try:

Value=10

Divide\_by = 0

Result = value/ Divide\_by

Print(Result)

Except:

Print(“Error: Divide by zero error”)

This program has the output as Divide by zero error

Python allows multiple except blocks for single try. (to catch multiple exceptions)

We can also have else case in exceptions.

Try:

…….

Except:

…….

Else:

…….

Finally: Finally, block is always executed whether exception occur or not.

Try

Code block

Except:

Exception block

Finally:

Finally block

How do you read and write files in Python?

Python provides inbuild functionality to do file operations like read and write.

There are two types of files handled by python.

1. Text file - text file terminated with end of line (“\n”)
2. Binary file – data converted into binary format and stored. No end of line.

Before reading and writing we need to open the file.

Ex: filename = open(“filename.txt”,”r”)

File is opened for only read.

“r” specifies access modes for the file.

Read: read(), readlines() used for reading file. If any specified bytes, it read only up to the bytes.

Else not specified it read entirely.

File. Readlines()

Like read we can write the file. But if we need to write something in the file, we need to open the file in write mode.

filename = open(“filename.txt”,”w”)

Like read we can use write(), writelines() for writing

We need to ensure the modes of the files when we do operations on files.

Read only(r), Read and write(r+), write only(w), write and read(w+), Append only(a), append and read(a+)

How do you install and use external packages in Python?

External packages have custom set of functions, objects and more.

Import the libraries using “Import” Keyword.

For example we can take matplotlib library

It is used for visualization in python for 3D plots.

Users who prefer to use pip can use the below command to install Matplotlib:

pip install matplotlib

once completed we can use install matplotlib

How do you use the "if" statement in Python to perform conditional execution?

Like other programming language python also have decision-based code running.

For this we are using if cases.

Simple if :

If(age > 60)

Print(“senior citizen”)

If.. Else :

If(age > 60)

Print(“senior citizen)

Else

Print(“Not senior citizen”)

Elif :

If(number == 0)

Print(“number is zero”)

Elif(number < 0)

Print(“number is negative”)

Else

Print(“positive”)

Nested-if

If(condition)

If(condition)

Multiple conditions(inside if).