

Module 4

What is File function in python? What is keywords to create and write file.

To write to a file in Python using a for statement, you can follow these steps: Open the file using the `open()` function with the appropriate mode ('w' for writing). Use the for statement to loop over the data you want to write to the file. Use the file object's `write()` method to write the data to the file.

Explain Exception handling? What is an Error in Python?

Exception & Error Handling in Python:

Errors and exceptions can lead to program failure or unexpected behavior, and Python comes with a robust set of tools to improve the stability of the code.

Errors and exceptions can lead to unexpected behavior or even stop a program from executing. Python provides various functions and mechanisms to handle these issues and improve the robustness of the code. In this tutorial, we will learn about various error types and learn about built-in functions with examples.

Errors are problems that occur in the program due to an illegal operation performed by the user or by the fault of a programmer, which halts the normal flow of the program. Errors are also termed bugs or faults. There are mainly two types of errors in python programming.

How many except statements can a try-except block have? Name some built-in exception classes:

More than zero

Exception handling with try, except, else, and finally

Try: This block will test the excepted error to occur

Except: Here you can handle the error

Else: If there is no exception then this block will be executed

Finally: Finally block always gets executed either exception is generated or not

When will the else part of try-except-else be executed?

The else part is executed when no exception occurs.

Can one block of except statements handle multiple exception?

Yes, The else part is executed when no exception occurs.

When is the finally block executed?

Finally block is always executed after leaving the try statement. In case if some exception was not handled by except block, it is re-raised after execution of finally block. finally block is used to deallocate the system resources.

What happens when „1“== 1 is executed?

It simply evaluates to False and does not raise any exception.

How Do You Handle Exceptions With Try/Except/Finally In Python?

Exception handling with try, except, else, and finallyFirst try clause is executed i.e. the code between try and except clause. If there is no exception, then only try clause will run, except clause will not get executed. If any exception occurs, the try clause will be skipped and except clause will run.

Explain with coding snippets.

A code Snippet is a programming term that refers to a small portion of re-usable source code, machine code, or text. Snippets help programmers reduce the time it takes to type in repetitive information while coding. Code Snippets are a feature on most text editors, code editors, and IDEs.

What are oops concepts? Is multiple inheritance supported in Python?

Major OOP (object-oriented programming) concepts in Python

Include:

- Class
- Object/ Method
- Encapsulation
- Inheritance
 - Inheritance has 3 sub-types

1. Single [1-1]
2. Multiple [1-many]
3. Multilevel [a-b-c]

- Polymorphism
- Data Abstraction

How to Define a Class in Python? What Is Self? Give an example of a Python Class

Defining class in python is very easy. It is defined as

```
class 'name':
```

```
    Object():
```

Self is inbuilt feature which is the first default positional argument.

```
class Studentinfo:
```

```
    id = 101
```

```
    name = xyz
```

```
    print("Id:",id)
```

```
    print("name:",name)
```

```
st = Studentinfo()
```

O/P:

```
id: 101
```

```
name = xyz
```

Explain Inheritance in Python with an example? What is init? Or What Is A Constructor In Python?

Inheritance relationship defines the classes that inherit from other classes as derived, subclass, or sub-type classes. Base class remains to be the source from which a subclass inherits. For example, you have a Base class of "Animal," and a "Lion" is a Derived class. The inheritance will be Lion is an Animal.

Class a:

```
Print("hello")
```

Class b(a):

```
Print("I am python!!!")
```

```
Cl = b()
```

```
cl.b
```

O/P :

```
Hello
```

```
I am python!!!
```

Init: The `__init__` method is the Python equivalent of the C++ constructor in an object-oriented approach. The `__init__` function is called every time an object is created from a class.

What is Instantiation in terms of OOP terminology?

Instantiation – The creation of an instance of a class. Method – A special kind of function that is defined in a class definition. Object – A unique instance of a data structure that's defined by its class. An object comprises both data members (class variables and instance variables) and methods

What is used to check whether an object o is an instance of class A?

Using `isinstance()` function, we can test whether an object/variable is an instance of the specified type or class such as `int` or `list`. In the case of inheritance, we can check if the specified class is the parent class of an object. For example, `isinstance(x, int)` to check if `x` is an instance of a class `int`.

What relationship is appropriate for Course and Faculty?

One to one relationship and multilevel

What relationship is appropriate for Student and Person?

Many to one : multiple