

Python Assignment

Module – 4 (Advance python programming)

➤ **QUESTION:1 What is File function in python? What is keywords to create and write file.**

Python file object provides methods and attributes to access and manipulate files. Using file objects, we can read or write any files. Whenever we open a file to perform any operations on it, Python returns a file object. To create a file object in Python use the built-in functions, such as `open()` and `os.popen()` .

`write()` :-

This function writes a fixed sequence of characters to a file.

`writelines()` :-

This function writes a list of string.

`append()` :-

This function append string to the file instead of overwriting the file.

➤ **QUESTION:2 Explain Exception handling? What is an Error in Python?**

Exception handling is a mechanism that separates code that detects and handles exceptional circumstances from the rest of your program. Note that an exceptional circumstance is not necessarily an error.

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.

➤ **QUESTION:3 How many except statements can a try-except block have? Name Some built-in exception classes:**

More than zero except statements can a try-except block have.

Built-in Exception in Python :-

- Base Classes :-
 - BaseException.
 - Exception.
 - ArithmeticError.
 - BufferError. ○ LookupError.
 - Concrete Exceptions.

➤ **QUESTION:4 When will the else part of try-except-else be executed?**

The try block lets you test a block of code for errors. The except block lets you handle the error. The else block lets you execute code when there is no error. The finally block lets you execute code, regardless of the result of the try- and except blocks.

➤ **QUESTION:5 Can one block of except statements handle multiple exception?**

Yes, a single block of except statements in Python can handle multiple exceptions. This feature allows you to handle different types of exceptions using a single block of code.

➤ **QUESTION:6 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.

➤ **QUESTION:7 What happens when „1“== 1 is executed?**

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

➤ **QUESTION:8 How Do You Handle Exceptions With Try/Except/Finally In Python? Explain with coding snippets.**

To handle the exception, we have put the code, result = numerator/denominator inside the try block. Now when an exception occurs, the rest of the code inside the try block is skipped. The except block catches the exception and statements inside the except block are executed.

➤ **QUESTION:9 What are oops concepts? Is multiple inheritance supported in java.**

OOPS in java is to improve code readability and reusability by defining a Java program efficiently. The main principles of object-oriented programming are abstraction, encapsulation, inheritance, and polymorphism. These concepts aim to implement real-world entities in programs.

Java doesn't support multiple inheritances of classes.

➤ **QUESTION:10 How to Define a Class in Python? What Is Self? Give An Example Of A Python Class.**

The self variable in Python can also be used to access a variable field within the class definition. Let us understand this with the help of example code: `class Student: def __init__(self, Alex): self.name = Alex #name created in constructor def get_student_name(self): return self.name.`

➤ **QUESTION:11 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.

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. The `__init__` method lets the class initialize the object's attributes and serves no other purpose.

➤ **QUESTION:12 What is Instantiation in terms of OOP terminology?**

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.

➤ **QUESTION:13 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`.

➤ **QUESTION:14 What relationship is appropriate for Student and Person?**

- ✓ In this case, the student class inherits all the attributes and methods of the person class, such as `name`, `age`, `address`, etc.
- ✓ Additionally, the student class can have its own attributes and methods that are specific to students, such as `grade point average (GPA)`, `courses taken`, etc.

➤ **QUESTION:15 What relationship is appropriate for Course and Faculty?**

✓ The relationship between a course and faculty can be modelled in various ways, depending on the context and requirements of the system. Here are some possible relationships :-

- **One-to-one** :- A course is taught by one faculty member, but a faculty member teaches only one course.
- **One-to-many** :- A course is taught by one faculty member, but a faculty member can teach multiple courses.
- **Many-to-many** :- A course can be taught by multiple faculty members, & a faculty member can teach multiple courses.