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

The file function allows us to write content into text file and read content from text file. In order to create and write file we can use built-in open() method with ‘w’ or ‘a’ mode. ‘w’ mode will write content into text file by creating specified text file if not exist while ‘a’ mode will write content into existing file and also create a new file if not exist.

* Explain Exception handling? What is an Error in Python?

Exception is an event which occurs during the execution of a program that disrupts the normal flow of the programs. Exception handling is the process of managing these unwanted and unexpected events and maintaining the normal flow of the programs.

Error is a type of issue or defects in program that prevents the programmer from generating expected output and completing the particular task.

* How many except statements can a try-except block have? Name Some built-in exception classes.

A try-except block can have more than one except statement in order to handle multiple exception.

Built-in exception classes:-

1. Exception - Base class for all exceptions
2. ArithmeticError - Raised when an error occurs in numeric calculations
3. AssertionError - Raised when an assert statement fails
4. AttributeError - Raised when attribute reference or assignment fails
5. NameError - Raised when a variable does not exist
6. TypeError - Raised when two different types are combined
7. ValueError - Raised when there is a wrong value in a specified data type

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

The else part of try-except-else block will be executed only when no exception occurs in program.

* Can one block of except statements handle multiple exception?

Yes, one block of except statements can handle multiple exceptions. This feature allows us to handle different types of exceptions inside single block of code.

* When is the finally block executed?

A finally block is always executed whether an exception is thrown or not.

* What happens when “1”== 1 is executed?

When we execute “1” == 1 it simply returns false because of the data type difference in between where “1” is string object and 1 is number object.

* How Do You Handle Exceptions with Try/Except/Finally in Python? Explain with coding snippets.

1. First of all, we have to write the code logic inside of try block to check for any error or exception.

try :

num1 = 10

num2 = 0

print(num1/num2)

1. After that we have to create except block which handles the exception if occurred in try block otherwise try block is executed completely.

try :

num1 = 10

num2 = 0

print(num1/num2)

except ZeroDivisionError :

print(“error, can’t divide by zero”)

1. At last finally block is created which is always get executed whether any exception is occurred or not.

try :

num1 = 10

num2 = 0

print(num1/num2)

except ZeroDivisionError :

print(“error, can’t divide by zero”)

finally :

print(“execution is completed”)

* What are oops concepts? Is multiple inheritance supported in java?

Object Oriented Programming (OOPs) is a programming concept that uses objects and classes to implement real-world entities like inheritance, polymorphisms, encapsulation, abstraction in programming. The main concept of object-oriented Programming (OOPs) in Python is to bind the data and the functions that work together as a single unit so that no other part of the code can access this data.

Java doesn't support multiple inheritances due to the complexity of

Diamond Problem although we can implement multiple inheritances using method called interface in java.

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

We can define class in python using the ‘class’ keyword followed by any name and the first letter of class name is advised to be capital as it is a good practice as programmer.

The self is a reference to the current instance of the class and it is used to access attributes and methods that belongs to the class.

* Example of Person class:

class Person:

   def \_\_init\_\_(self, name, age):  
    self.name = name  
   self.age = age  
  
p1 = Person("Abrar", 21)  
  
print(p1.name)  
print(p1.age)

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

Inheritance allows us to define a class that inherits all the methods and properties from another class. Parent class also called base class is being inherited by Child class also called derived class.

The \_\_init\_\_ is constructor generally used for instantiating an object. The task of this constructors is to initialize values to the data members of the class when an object of the class is created.

* What is Instantiation in terms of OOP terminology?

The instantiation refers to the creation of an object or instance of given class through which we can get access of all the properties of Object-Oriented Programming.

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

We can use built-in isinstance() function to checks whether the object or variable is an instance of the specified class type.

res = isinstance(O,A)

The above code will return true if O is object of class A otherwise it will return false.

* What relationship is appropriate for Course and Faculty?

The relationship of aggregation is appropriate between course and faculty as aggregation represents a "has-a" relationship where one class Course can have another classes Faculty as part of its structure.

* What relationship is appropriate for Student and Person?

The relationship of single inheritance is appropriate for student and person as student class can inherit the common functionalities of person and can also add some specific attributes and methods related to student.