**Q:13 Explain Exception handling? What is an Error in Python?**

A:13 Python allows a user to manage errors and exceptional conditions that occur during Program execution.Instead of getting the program crashed when an error occurs exception handling provides a way to catch and handle this error gracefully.

Exception Handling can be done using try,Except,Else and Finally block.

Errors can be classified into two categories:

1. Syntax error: These occur when the code violates the syntax rules of the language. They are usually detected by the interpreter at compile time.
2. Exceptions: These are errors that occur at runtime. They are issues that arise while the program is executing and can be handled using exception handling.

**Q:14 How many except statements can a try-except block have? Name Some built-in exception classes?**

A:14 “try-except” block can have multiple except statements.Python will match the first ‘except’ block that matches it’s type.

Some builtin exception classes are: “IndexError”,”KeyError”,”TypeError”,”ValueError”,”ArithmeticError”

**Q:15 When will the else part of try-except-else be executed?**

A:15 If no exception are raised after try block then only else part of the try-except-else will be executed.

**Q:16 Can one block of except statements handle multiple exception?**

A:16 Yes one block of except statement can handle multiple exceptions user just need to write those exceptions in a tuple.

Try:

Pass

Except(exception1,exception2,exception3) as e:

Pass

**Q:17 When is the finally block executed?**

A:17 Finally block executes every single time the code runs.

**Q:18 What happens when „1‟== 1 is executed?**

A:18 Python throws an error as there is == operator with different types (string) and (integer) operands.

**Q:21What are oops concepts? Is multiple inheritance supported in python**

OOPS concepts are:

Class

Object

Inheritance

Encapsulation

Abstraction

Polymorphism

Yes multiple Inheritance is supported in python

**Q:22How to Define a Class in Python? What Is Self? Give An Example Of A Python Class**

A:22 Class is a collection of data members and member functions.

“Self” is a convention used in Python classes to refer to the instance of the class. It is the first parameter of methods in a class and is used to access attributes and methods on the instance.

class Rectangle:

def \_\_init\_\_(self,length,width):

self.length=length

self.width=width

def area(self):

return self.length\*self.width

rect=Rectangle(10,5)

print(f"The area of rectangle is {rect.area()}")

**Q:26 Explain Inheritance in Python with an example? What is init? Or What• Is A Constructor In Python?**

A:26 Object of one class can acquire the properties of object of anther class is inheritance

class Vehicle:

def \_\_init\_\_(self, brand, model):

self.brand = brand

self.model = model

def display\_info(self):

return f"Brand: {self.brand}, Model: {self.model}"

class Car(Vehicle):

def \_\_init\_\_(self, brand, model, number\_of\_doors):

super().\_\_init\_\_(brand, model)

self.number\_of\_doors = number\_of\_doors

def car\_info(self):

return f"This car has {self.number\_of\_doors} doors."

my\_car = Car(brand="Toyota", model="Corolla", number\_of\_doors=4)

There are 5 types of inheritance:

1)Single Inheritance

2)Multilevel Inheritance

3)Multiple Inheritance

4)Hierarchical Inheritance

5)Hybrid Inheritance

The “init” method in Python is known as the constructor for object initialization. It is a special method that is automatically called when an instance of a class is created.

Constructors in Python is a special class method for creating and initializing an object instance at that class. Every Python class has a constructor; it's not required to be defined explicitly.

**Q:27 What is Instantiation in terms of OOP terminology**

A:27 instantiation is the process of creating an instance of a class, or object, from a blueprint.

**Q:28 What is used to check whether an object o is an instance of class A?**

built-in function isinstance() to check whether an object is an instance of a specified class or a subclass thereof.

Syntax:

isinstance(object, classinfo)

**Q:29 What relationship is appropriate for Course and Faculty?**

A:29 The appropriate OOP (Object-Oriented Programming) relationship between Course and Faculty is an Association

One-to-Many: Typically, one Faculty member teaches multiple Courses, but each Course is associated with one Faculty member.

Many-to-Many: In more complex scenarios, both Course and Faculty can be associated with multiple instances of each other.

**Q:30 What relationship is appropriate for Student and Person?**

A:30 In Object-Oriented Programming (OOP), the relationship between Student and Person is typically modeled as an inheritance relationship. This is because a Student is a specific type of Person, meaning that Student is a subclass of Person.