**Module 5: Exceptions Handling**

Exception handling in Python is a way to gracefully manage errors or unexpected events during the execution of a program, so the program doesn’t crash abruptly.

**Errors**

Types of Errors in Python

1. **SyntaxError**

Raised when Python code has incorrect syntax.

Example

def my\_func()

print("Hello")

# Call the function

my\_func()

**Fix**: Add a colon : at the end of the function definition line.

1. **ImportError / ModuleNotFoundError**

Raised when Python can't find a module or import fails.

Example

import non\_existing\_module

**Output:**

ModuleNotFoundError: No module named 'non\_existing\_module'

1. **AttributeError**

Raised when a module does not have the attribute you're trying to access.

# B\_module\_B.py

def greet(name):

return f"Hello, {name}"

# C\_main\_C.py

import B\_module\_B

print(B\_module\_B.say\_hello("Amit")) # Error: No function called say\_hello

Note:-Correction put “greet” by replacing “say\_hello” in C\_main\_C.py

1. **NameError**

Raised when a variable or function name is not defined.

print(result) # 'result' is not defined

correct program

a = 10

b = 5

result = a + b

# Now we can print it

print("Result:", result)

1. **TypeError**

Raised when a function is used with wrong data type.

print("5" + 10) # Can't add str and int

1. **ValueError**

Raised when a function receives the right type but wrong value.

int("abc") # Cannot convert string to int

1. **ZeroDivisionError**

Raised when you divide a number by zero.

result = 10 / 0

**Exception Handling in Python**

Use try, except, else, and finally to handle exceptions gracefully.

**try:**

import math

print(math.sqrt(16))

print(10 / 0) # Will raise ZeroDivisionError

except ZeroDivisionError:

print("You cannot divide by zero.")

correct program

import math

print(math.sqrt(16))try:

print(10 / 0) # Will raise ZeroDivisionError

except ZeroDivisionError:

print("You cannot divide by zero.")

except ImportError:

print("Module not found.")

except Exception as e:

print("Some other error occurred:", e)

else:

print("No error occurred.")

finally:

print("This will always run.")

**Common Module-Related Exception Handling Exampl**

**try:**

import mypackage.module1 as m1

print(m1.greet("Amit"))

except ModuleNotFoundError:

print("Module not found. Please check the module name.")

except AttributeError:

print("Function not found in the module.")