**Practical No: 14**

**Aim:** Exception Handling: Write a program to: To handle simple runtime error To handle multiple errors with one except statement

**Course Outcome:** Develop ‘Python’ programs using File Input/outputoperations.

**Requirements: Computer, Python 3.3.34, Vs Code.**

**Theory:**

Error in Python can be of two types i.e. [Syntax errors and Exceptions](https://www.geeksforgeeks.org/errors-and-exceptions-in-python/). Errors are the problems in a program due to which the program will stop the execution. On the other hand, exceptions are raised when some internal events occur which changes the normal flow of the program.

Difference between Syntax Error and Exceptions

Syntax Error: As the name suggests this error is caused by the wrong syntax in the code. It leads to the termination of the program.

By handling multiple exceptions, a program can respond to different exceptions without terminating it. In Python, **try-except blocks can be used to catch and respond to one or multiple exceptions**. In cases where a process raises more than one possible exception, they can all be handled using a single except clause.

**Flowchart:**

**Program1:**#Exception Handling: Write a program to: To handle simple runtime error

Num = int(input("Enter First Number: "))

Num2 = int(input("Enter Second Number: "))

try:

    Res = Num/Num2

    print(Res)

except:

    print("Zero Division Error!..")

**Program2:**

#To handle multiple errors with one except statement

def fun(a):

    if a < 4:

        # throws ZeroDivisionError for a = 3

        b = a/(a-3)

    # throws NameError if a >= 4

    print("Value of b = ", b)

try:

    Num = int(input("Enter the Num: "))

    fun(Num)

# note that braces () are necessary here for

# multiple exceptions

except (ZeroDivisionError,NameError) as e:

    print("Error: ",e)

**Output1:**

**Case 1:**

Enter First Number: 4

Enter Second Number: 2

2.0

**Case 2:**

Enter First Number: 4

Enter Second Number: 0

Zero Division Error!..

**Output2:**

Enter the Num: 3

Error: division by zero

**Case 2:**

Enter the Num: 4

Error: local variable 'b' referenced before assignment

**Conclusion:**

**In these practical we have performed two programs of exception handling, in the first program we have taken use of try expect block and divide a number by zero that it will give a zero division error . In the second program I have used a function which gives Zero division error if I pass 3 and by value over 3 give name error and handled it by using one except block using the as error key word . hence we have used exception handling in python.**