Module 11: Exception Handling

Exception:

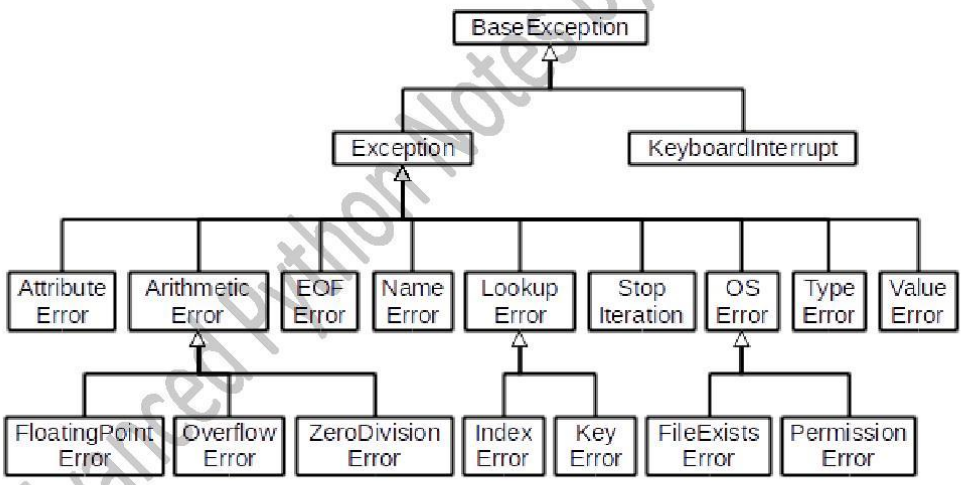
- Exception is abnormal condition that arises in the code at runtime i.e. exception is a runtime error.

Exception Handling:

- We need to handle exception to prevent the program from abnormal termination and continue with the remaining code.

Exception Hierarchy:

- BaseException is the base class of all exceptions in Python.
- SystemExit is raised whenever sys.exit function is called.
- KeyboardInterrupt is raised when user presses Ctrl + C.



try with single except:

- try clause: wraps any code that might throw an exception.
- except clause: code to handle the exception.
  - except ExceptionClass:
- Advantage of try…except clause is program does not crash and remaining normal code execution continues.

try with multiple except:

- In this we have multiple except clauses and do different things with them.
- All except clause should appear back to back although they can be in any order.

try with multi except:

- In this we catch two or more different exceptions and handle them with the same code.
- (ex1,ex2) is actually a tuple

try with default except:

- In this we don't specify any name of exception in except clause.
- **Note:** default except clause must be the last except clause if combined with multiple except clause

finally clause:

- It is to put any code that must execute whether try clause raised an exception or not. Used for file close, server disconnects, etc.

else clause:

- else clause: is to put any code that will execute if no exceptions were raised.

Important Points to remember:

- try else is a bad combo.
- else clause can appear only if except clause is used.
- try finally is valid combo but in this case exception would get propagated.
- finally clause cannot appear before else clause.
- Finally will not completely execute if an exception arises in finally block or a return statement is there in finally block.

Module 10: Python Exception Handling - Test

Q1) Which of the following is not an exception handling keyword in Python?

Options:

a) try
b) except
c) catch
d) finally

Solution:

Q2) What is the output of the code shown below?

```
lst = [1, 2, 3]
lst[3]
```

Options:

a) NameError
b) ValueError
c) IndexError
d) TypeError

Solution:

Q3) What is the output of the code shown below?

```
t[5]
```

Options:

a) IndexError
b) NameError
c) TypeError
d) ValueError

Solution:

Q4) What is the output of the following code,

```
4 + '3'
```

Options:

a) NameError
b) IndexError
c) ValueError
d) TypeError

Solution:

Q5) The output of the code shown below is:

```
int('65.43')
```

Options:

a) ImportError b) ValueError

c) TypeError d) NameError

Solution:

Q6) You are creating a program that accepts user input. The program must cast the input into an integer. You must properly handle the error if the code cannot cast the input to an integer.

How should you complete the code? To answer, select the appropriate code segments in the answer area.

```
while True:
    [1] _____
        x = int(input("Please enter a number: "))
        break
    [2] _____ ValueError:
        print("Not a valid number. Try again...")
```

Options:

Option [1]

A. try: B. else:

C. except: D. raise: E: finally:

Option [2]

A. try: B. else:

C. except: D. raise: E: finally:

Solution:

Q7) Is the following code valid?

```
try:
    # Do something
except:
    # Do something
else:
    # Do something
```

Options:

a) no, there is no such thing as else
b) no, else cannot be used with except
c) no, else must come before except
d) yes

Solution:

Q8) What is the output of the following code?

```
try:
        a[0] = 'wow'
except Exception  :
        print('exception ')
except NameError:
        print('Name Error ')
except IndexError:
        print('Index Error')
```

Options:

a) The code will not run
b) exception
c) exception Name Error
d) Name Error

Solution:

Q9)

```
10. try:
11.         # some code here
12. except IndexError:
13.         print('a ', end = ' ')
14. except Exception  :
15.         print('b ', end = ' ')
16. finally:
17.         print('c ', end = ' ')
```

if some sort of exception is thrown at line 11 then what outcome is possible.

Options:

a) a
b) b
c) a c
d) a b c

Solution:

Q10) What is the truth about "default except" clause?

Options:

a) it can appear anywhere
b) it has to be last in all except clause
c) no such concept
d) it should appear after finally clause

Solution:

Q11) For each of the following statements, select Yes if the statement is true. Otherwise, select No.

Answer Area	Yes	No
A try statement can have one or more except clauses.	O	O
A try statement can have a finally clause without an except clause.	O	O
A try statement can have a finally clause and an except clause.	O	O
A try statement can have one or more finally clauses.	O	O