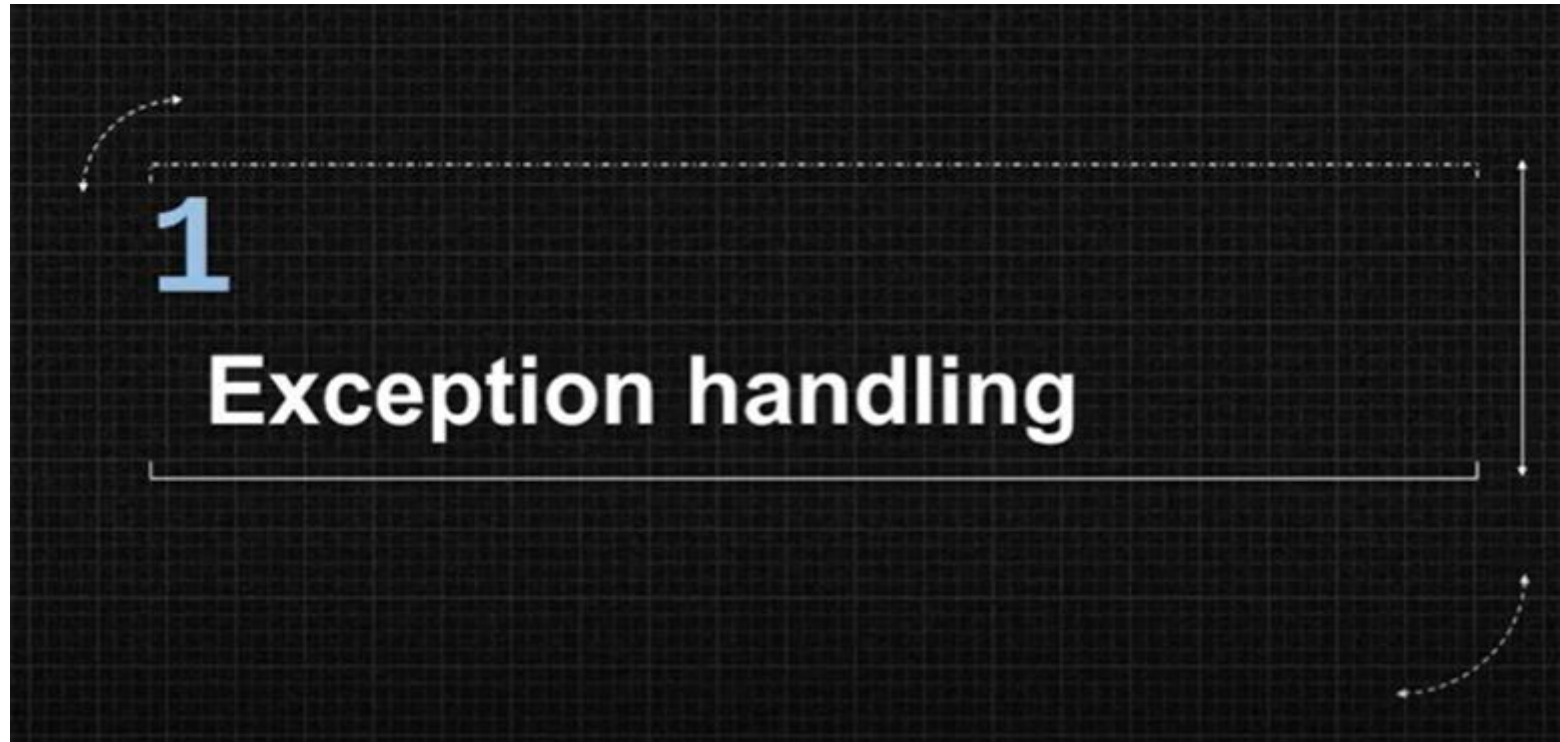


PYTHON- Exception Handling

Dr Sivabalan,
Technical Training Advisor
Sivabalan.n@nttdata.com

Exception Handling



Exception Handling

Topics:-

- What is Exception?
- Need of exception handling
- Exceptions vs Syntax Error

Exception Handling

- What is **Exception**?

```
num1=10
num2=0
result=num1/num2
print(result)
. . .
. . .
print("Rest of code")
```

o/p: -
ZeroDivisionError

```
in1=100
in2="hello"
result=in1+in2
print(result)
. . .
. . .
print("Rest of code")
```

o/p: - **TypeError**

Exception Handling

- An exception is an event which occurs during the execution of program that disrupts normal flow of program.
- Situation that python can't cope with it.

Exception vs Error



- Errors cannot be handled.
- Exceptions can be handled using exception handling syntax.

```
ex. print("hello")
```


Exception Handling

4 blocks

- `try` block
- `except` block
- `else` block
- `finally` block

Exception Handling

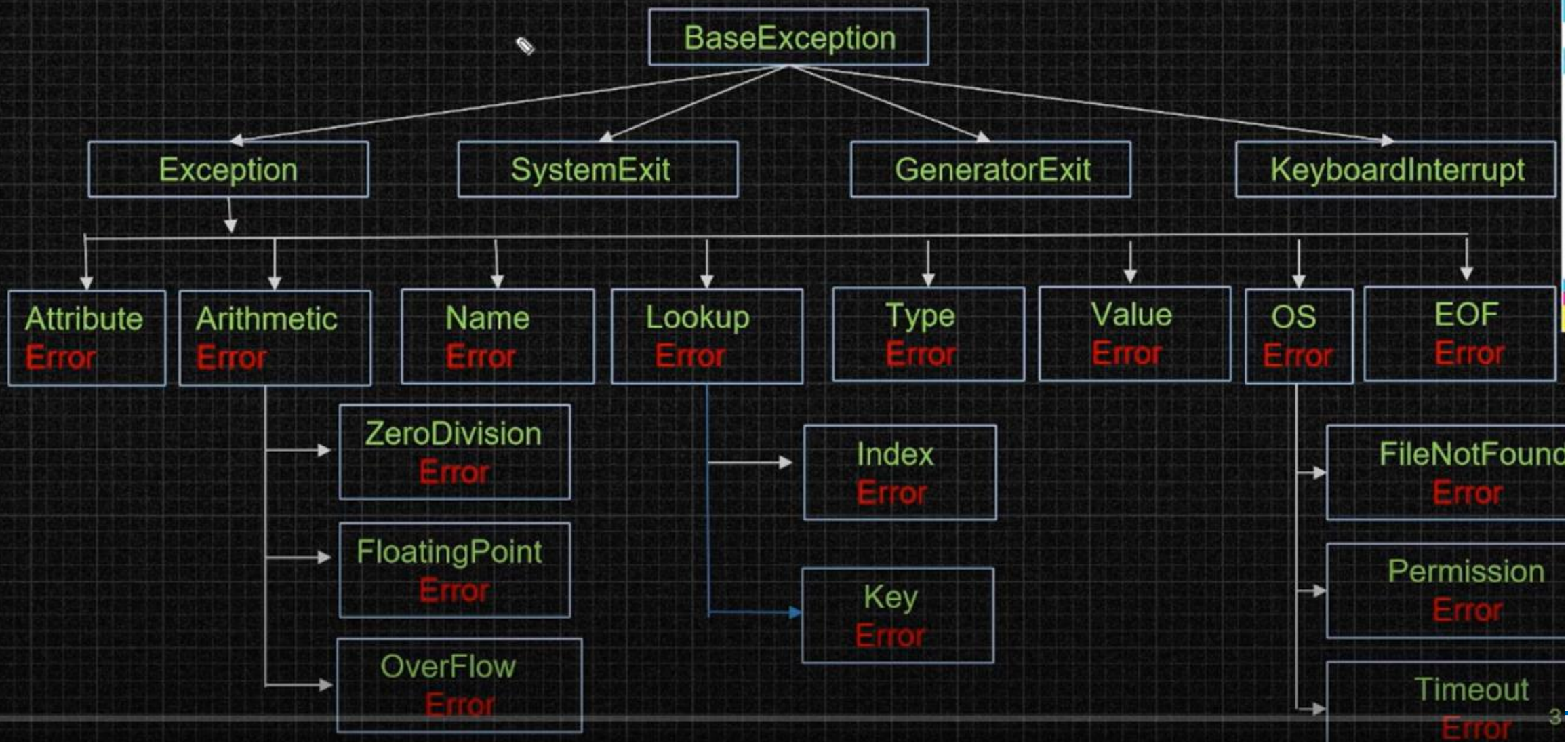
Syntax: -

```
try:
    #code containing exceptions (suspicious code)
except [ExceptionName]:
    #code to handle exceptions(if occurred)
else:
    #code to execute if no exceptions occurred.
finally:
    #Always executed
```


Exception Handling

- Print Exception name
 1. using `exception class object`
 2. using `sys module`
- Which Exception first?

Python Exception Hierarchy



User-defined exceptions:-

- Exceptions created by programmers.
- Withdrawing money

Exception Handling

raise keyword/statement:-

- An exception can be raised forcefully by using the raise clause in Python.
- raise statement is used when we want to throw exception for particular condition.

Exception Handling

raise keyword/statement:-

- ex. input age: -10
ValueError: invalid age
- syntax:- **raise** ExceptionName("exception message")

User-defined exceptions



Exception Handling

step-01

Create exception class and inherit it from Base Exception class. i.e Exception.

```
class InvalidAge(Exception):  
    pass
```

Exception Handling

step-02

Raise InvalidAge exception for particular condition($\text{age} < 0$) inside try block.

```
try:  
    if age < 0:  
        raise InvalidAge("message")
```

Exception Handling

step-03

handle the exception using except block.

```
except Exception as obj:  
    print(obj)
```


Use of Exception Handling



Exception Handling

Requirements:-

- Withdraw money from bank.
 - Balance in bank should not be less than 1000.
 - User account will be blocked for an hour if user put 3 times wrong pin.