

# Python Programming

## Inheritance with Exceptions

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*Teaching, Training and Coaching since more than a decade!*

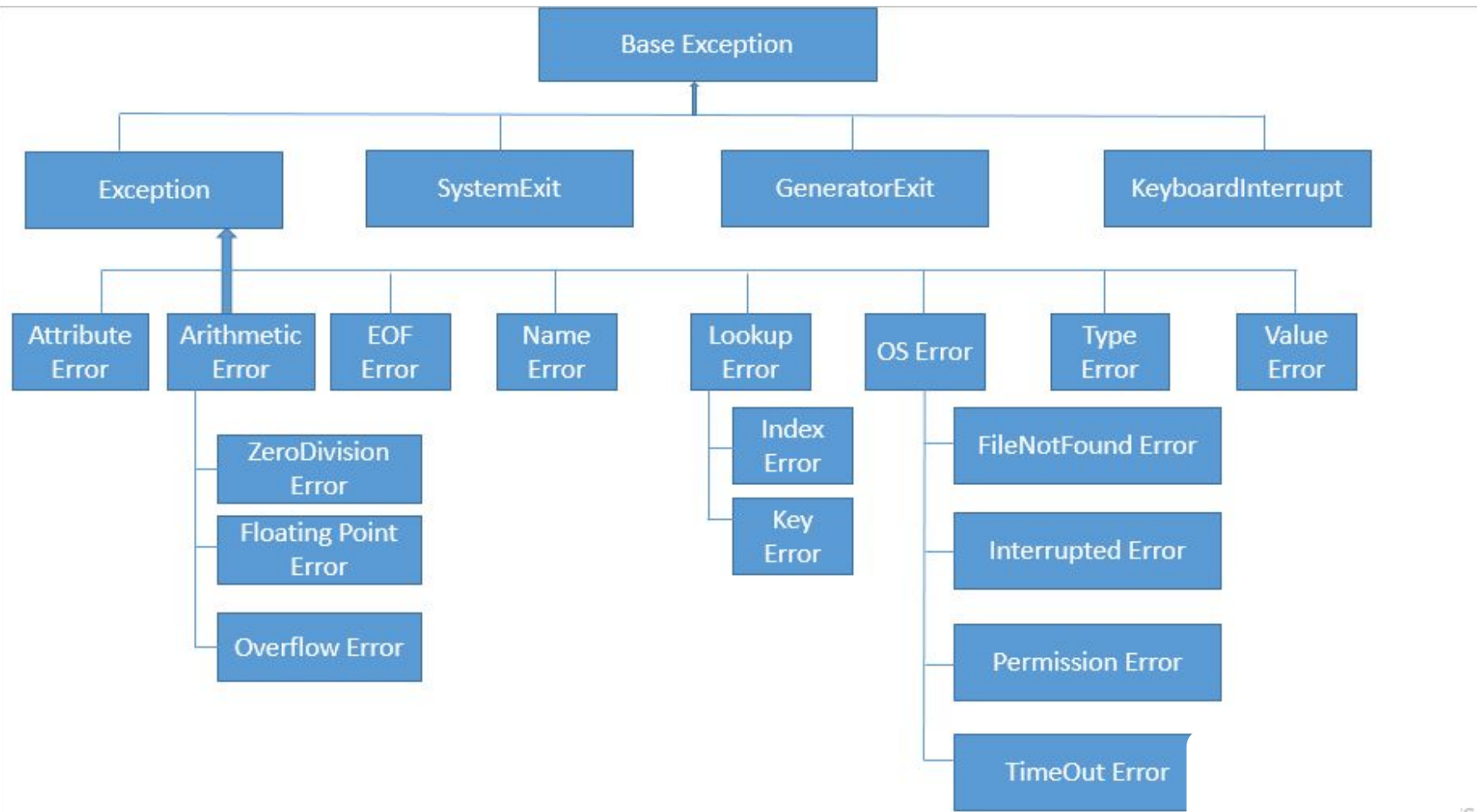
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# Order of Exceptions


```
3 try:
4     path = input()
5     file = open(path, 'r')
6     file.close()
7 except FileNotFoundError:
8     print('FileNotFoundError')
9 except PermissionError:
10    print('PermissionError')
11 except OSError:
12    print('Interrupted or Timeout errors')
13 except Exception as e:
14    print(e)
15
16 """
17 not_exist.txt ==> FileNotFoundError
18 /boot/efi/ ==> PermissionError
19 """
```

```
3 try:
4     path = input()
5     file = open(path, 'r')
6     file.close()
7 except OSError:
8     print('OSError')
9 except FileNotFoundError:
10    print('FileNotFoundError')
11 except PermissionError:
12    print('PermissionError')
13 except Exception as e:
14    print(e)
15
16 """
17 not_exist.txt ==> OSError
18 /boot/efi/ ==> OSError
19 """
```

# Order of Exceptions

- You must make a child class FIRST before its PARENT class
  - Otherwise: the child class will never be triggered

# User-Defined Exception

```
3 class StrNoAllowed1:
4     ... pass
5
6
7 #TypeError: exceptions must derive from BaseException
8 #raise StrNoAllowed1
9
10
11 # You must extend from built-in exceptions
12 class StrNoAllowed2(BaseException):
13     ... pass
14
15  raise StrNoAllowed2
```

# User-Defined Exception

```
class PaymentBaseException(BaseException):
    pass

class NegativePaymentException(PaymentBaseException):
    def __init__(self, money, message = 'Paid amount must be positive'):
        self.money = money
        self.message = message
        super().__init__(self.message)

    def __str__(self):
        return f'{self.money} amount caused error. \n\tSee: {self.message}'

raise NegativePaymentException(-20)

"""
__main__.NegativePaymentException: -20 amount caused error.
See: Paid amount must be positive
"""
```

# Industrial Tip

- For your application: Create a parent exception
  - E.g. `PaymentBaseException`
- Let all your customized exceptions inherit from it
  - Now called to your API can guarantee catching issues coming from your API

*“Acquire knowledge and impart it to the people.”*

*“Seek knowledge from the Cradle to the Grave.”*