Python Assertions & Exceptions

4.11.2022

Me handling Exception in best way.

Assertions

2.1 Covering Your A With Assertions**

Code is Here! - Try it Here!

- Assertlerin doğru kullanımı, geliştiricilere bir programdaki kurtarılamayan hatalar hakkında bilgi vermektir.
- Assertions, programınız içinde dahili kendi kendine kontroller anlamına gelir.
- Kodunuzda bazı imkansız koşulları ilan ederler.

İndirim.

```
def apply_discount(product,discount):
    price = int(product["price"] * (1 - discount))
    assert 0 <= price <= product["price"]
    return price

shoes = {'name': 'Fancy Shoes', 'price': 14900}

print(apply_discount(shoes, 0.25))

# Will throw assertion error.
# print(apply_discount(shoes, 2.0))
```

More Assertion Examples

Listenin ortalamasını al.

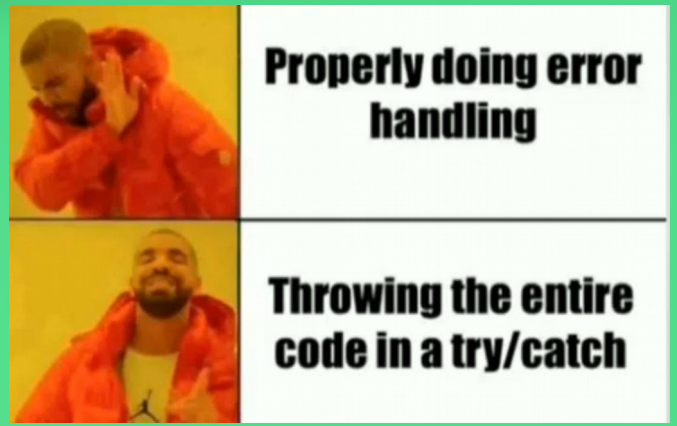
```
def avg(marks):
    assert len(marks) != 0,"List is empty."
    return sum(marks)/len(marks)

mark2 = [55,88,78,90,79]
print("Average of mark2:",avg(mark2))

mark1 = []
print("Average of mark1:",avg(mark1))
```

How can we explain it better?

IN A TRY EXCEPT BLOCK!



Exceptions

```
try:
    from ui.tools.logger import ReadLogger
    logger = ReadLogger.getlogger()
except Exception as e:
    print (“Exception here!”)
```

Difference between Syntax Error and Exceptions

Syntax Error

```
amount = 10000

# check if you can purchase Nike Shoes

if(amount > 2999)

print("No =)")
```

```
  File "/home/ac35380186f4ca7978956ff46697139b.py", line 4
    if(amount>2999)
                  ^
SyntaxError: invalid syntax
```

Exceptions

```
# initialize the amount variable

marks = 10000

# perform division with 0

a = marks / 0

print(a)
```

```
Traceback (most recent call last):
  File "/home/f3ad05420ab851d4bd106ffb04229907.py", line 4, in <module>
    a=marks/0
ZeroDivisionError: division by zero
```

Most Optimized String Formatting

There are 4 major ways to do string formatting in Python. Kinda unreal and go against Zen of Python for sure.

```
name = 'Bob'

print("Hello, %s", name)
# Hello, Bob
```

```
"Hello, {}".format(name)
# "Hello, Bob"
```

```
print(f'Hello, {name}!')
# 'Hello, Bob!'
```

f-strings are better, faster, stronger. So use them whenever you can.

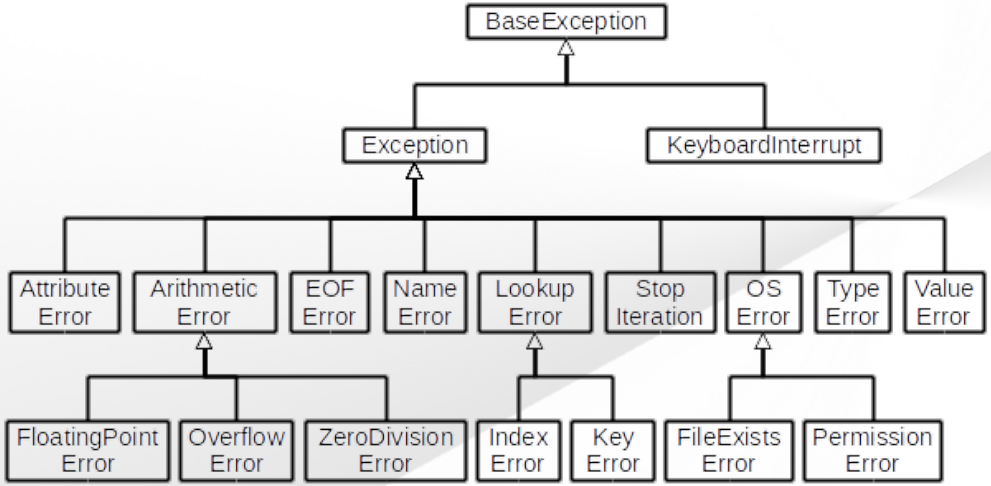
Examples

```
# Program to depict else clause with try-except
def sum_over_subtract(a , b):
    try:
        c = ((a+b) / (a-b))
    except ZeroDivisionError:
        print ("a/b result in 0")
    else:
        print (c)

# Driver program to test above function
sum_over_subtract(2.0, 3.0)
sum_over_subtract(3.0, 3.0)
```

else - güvenli su

Exception Hierarchy



ValueError

: “We received an argument of the correct data type but an inappropriate value.”

ZeroDivisionError

: “You cannot divide by zero”

FileNotFoundError

: “Could not the file that’s looked for”

Danger


```
def function():
    try:

        f = open("demofile.txt", "r")
        print(f.read())
        x = 2/0
        assert x != None, "Error"
        print(x)

    except IOError as io:
        print(f"Error: {io}")

    except ZeroDivisionError as zero:
        print(f"Error: {zero}")

function()
```


Slides Carnival