What is Exception?

An exception is a Python object that represents an error.

When a Python script raises an exception, it must either handle the exception immediately otherwise it terminates and quit.
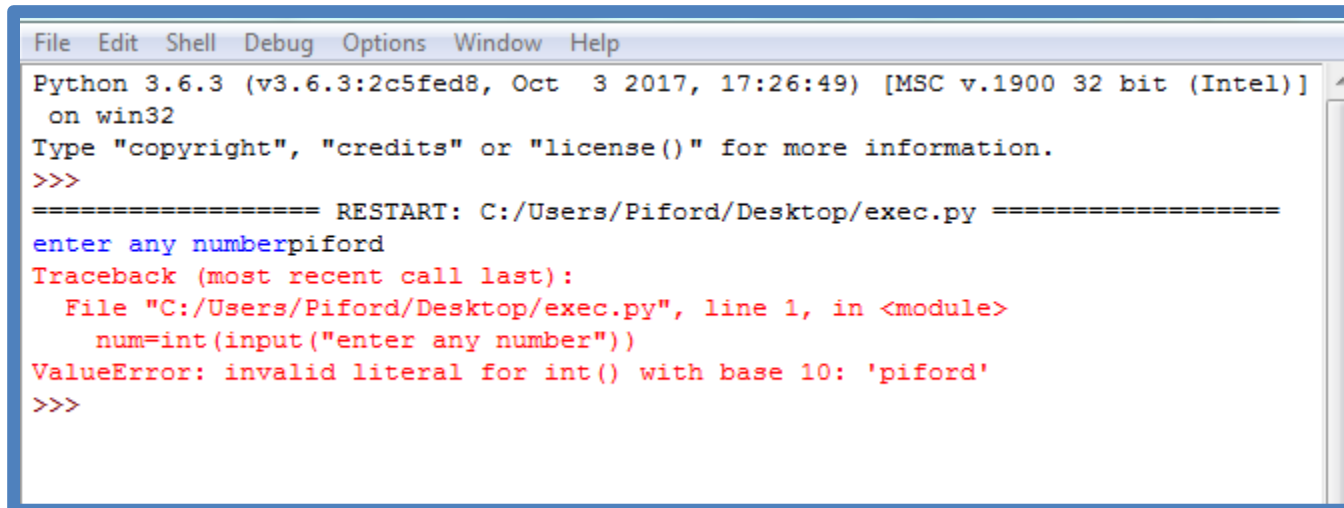
Handling an exception

Write code in a **try:** block. After the try: block, include an **except:** statement, followed by a block of code which handles the problem as elegantly as possible.

What is Exception?

num=int(input("enter any number"))

print(num)

```
File  Edit  Shell  Debug  Options  Window  Help
Python 3.6.3 (v3.6.3:2c5fed8, Oct  3 2017, 17:26:49) [MSC v.1900 32 bit (Intel)]
 on win32
Type "copyright", "credits" or "license()" for more information.
>>>
=================== RESTART: C:/Users/Piford/Desktop/exec.py ===================
enter any numberpiford
Traceback (most recent call last):
  File "C:/Users/Piford/Desktop/exec.py", line 1, in <module>
    num=int(input("enter any number"))
ValueError: invalid literal for int() with base 10: 'piford'
>>>
```

Try and Except

try and except block is used to handle the exception. A single try statement can have multiple except statement.

try:

   num=int(input("enter any number"))

   print(num)

except:

   print ("Wrong input")

```
>>>
================= RESTART: C:/Users/Piford/Desktop/exec.py =================
enter any numberpiford
Wrong input
>>>
```

Multiple except block

try and except block is used to handle the exception. A single try statement can have multiple except statement.

```
try:
    num=int(input("enter any number"))
    pp=(20/num)
except ValueError:
    print ("Please enter integer data")
except ZeroDivisionError:
    print ("don't use Zero")
else:
    print(pp)
```
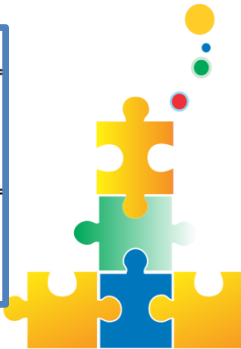
```
>>>
================= RESTART: C:/Users/Piford/Desktop/exec.py ===
enter any numberhh
Please enter integer data
>>>
================= RESTART: C:/Users/Piford/Desktop/exec.py ===
enter any number0
don't use Zero
>>>
```
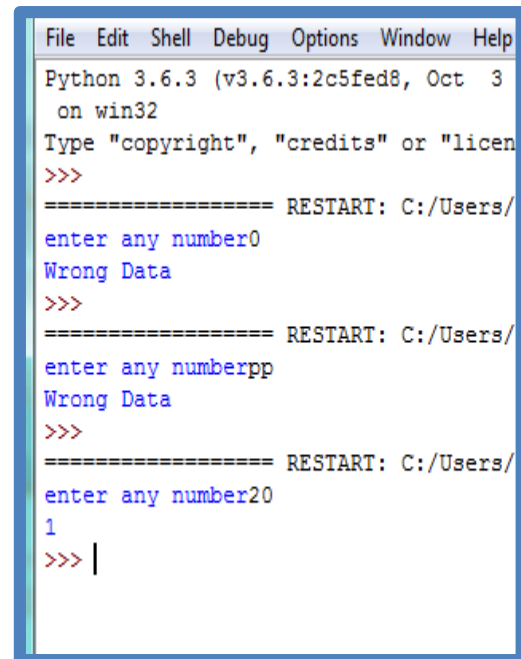
```
try:
    num=int(input("enter any number"))
    pp=(20//num)
except(ValueError,ZeroDivisionError):
    print ("Wrong Data")
else:
    print(pp)
```



```
File  Edit  Shell  Debug  Options  Window  Help
Python 3.6.3 (v3.6.3:2c5fed8, Oct  3
 on win32
Type "copyright", "credits" or "licen
>>>
================= RESTART: C:/Users/
enter any number0
Wrong Data
>>>
================= RESTART: C:/Users/
enter any numberpp
Wrong Data
>>>
================= RESTART: C:/Users/
enter any number20
1
>>> |
```

finally statement

```python
try:
    num=int(input("enter any number"))
    pp=(20//num)
except(ValueError,ZeroDivisionError):
    print ("Wrong Data")
else:
    print(pp)
finally:
    print("This is our final statement")
```

```
================== RESTART: C:/Users/Piford/Desktop/exec.py ==================
enter any number0
Wrong Data
This is our final statement
>>>
```

Find the type of Exception

```
try:
    num=int(input("enter any number"))
    pp=(20//num)
except Exception as e:
    print(type(e))
```

```
>>>
================= RESTART: C:/Users/P
enter any number7.8
<class 'ValueError'>
>>>
================= RESTART: C:/Users/P
enter any number0
<class 'ZeroDivisionError'>
>>> |
```

Raise Exception

```python
try:
    num=int(input("enter any number"))
    pp=(200//num)
    if pp==20:
        raise IOError
except IOError:
    print("exception raised")
else:
    print("value is not equal to 20")
```

```
>>>
================ RESTART: C:/Users/Pifor
enter any number10
exception raised
>>>
================ RESTART: C:/Users/Pifor
enter any number34
value is not equal to 20
>>>
```