In [ ]:
```
# Exception Handling

    # Syntax Error
    # logical error
```

In [5]:
```
from datetime import datetime,timedelta
```

In [7]:
```
timedelta()
```

Out[7]:
```
datetime.timedelta(0)
```

In [ ]:
```
# try:
#     pass
# except:
#     pass
```

In [12]:
```
i  = 0
while i 10:
    i = i +1
    print(i)
```

```
  Cell In[12], line 2
    while i 10:
            ^
SyntaxError: invalid syntax
```

In [4]:
```
a = 8

if a> 4:
```

```
  Cell In[4], line 3
    if a> 4:
             ^
SyntaxError: unexpected EOF while parsing
```

In [7]:
```
for i range(5):
    print(i)
```

```
  Cell In[7], line 1
    for i range(5):
          ^
SyntaxError: invalid syntax
```

In [31]:
```
def calculate(n1,n2):
   return n1 / n2
```

In [32]:
```
calculate(20,10)
```

Out[32]:
```
2.0
```

In [11]:
```
calculate(20,0)
```

```
---------------------------------------------------------------------------
ZeroDivisionError                         Traceback (most recent call last)
Cell In[11], line 1
----> 1 calculate(20,0)

Cell In[9], line 2, in calculate(n1, n2)
      1 def calculate(n1,n2):
----> 2     return n1 / n2

ZeroDivisionError: division by zero
```

In [12]:
```
open('demo1.txt')
```

```
---------------------------------------------------------------------------
FileNotFoundError                         Traceback (most recent call last)
Cell In[12], line 1
----> 1 open('demo1.txt')

File ~\AppData\Local\Programs\Python\Python38\lib\site-packages\IPython\core
\interactiveshell.py:282, in _modified_open(file, *args, **kwargs)
    275 if file in {0, 1, 2}:
    276     raise ValueError(
    277         f"IPython won't let you open fd={file} by default "
    278         "as it is likely to crash IPython. If you know what you are d
oing, "
    279         "you can use builtins' open."
    280     )
--> 282 return io_open(file, *args, **kwargs)

FileNotFoundError: [Errno 2] No such file or directory: 'demo1.txt'
```

In [13]:
```
b = 100
```

In [14]:
```
if c > 100: print(c)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[14], line 1
----> 1 if c > 100: print(c)

NameError: name 'c' is not defined
```

In [15]:
```
print(age)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[15], line 1
----> 1 print(age)

NameError: name 'age' is not defined
```

In [16]:
```
lst = [1,2,3]
lst[3]
```

```
---------------------------------------------------------------------------
IndexError                                Traceback (most recent call last)
Cell In[16], line 2
      1 lst = [1,2,3]
----> 2 lst[3]

IndexError: list index out of range
```

In [19]:
```
import Random
```

```
---------------------------------------------------------------------------
ModuleNotFoundError                       Traceback (most recent call last)
Cell In[19], line 1
----> 1 import Random

ModuleNotFoundError: No module named 'Random'
```

In [21]:
```
try:
    import Random
except Exception as e:
    print(e)
```

```
No module named 'Random'
```

In [25]:
```
try:

    print(age)
except Exception as e:
    print(e)
```

```
name 'age' is not defined
```

In [26]:
```
try:
    print(age)
except Exception as e:
    print(e)
finally:
    print("FInally")
```

```
name 'age' is not defined
FInally
```

In [28]:
```
try:
    f = open("demo.txt",'w+')
    f.write("\nHello world")

except Exception as error:
    print(error)

finally:
    f.close()
```

In [34]:
```
calculate(20,0)
```

```
---------------------------------------------------------------------------
ZeroDivisionError                         Traceback (most recent call last)
Cell In[34], line 1
----> 1 calculate(20,0)

Cell In[31], line 2, in calculate(n1, n2)
      1 def calculate(n1,n2):
----> 2     return n1 / n2

ZeroDivisionError: division by zero
```

In [36]:
```
try:
    calculate(20,0)
except Exception as e:
    print(e)
```

```
division by zero
```

In [38]:
```
try:

    try:
        print(age)
    except Exception as e:
        print(e)

except Exception as e:
    print(f"Error====={e}")
```

```
name 'age' is not defined
```

# Custom Exception

In [39]:
```
class customError(Exception):
    pass
```

In [40]:
```
raise customError("An error occured")
```

```
---------------------------------------------------------------------------
customError                               Traceback (most recent call last)
Cell In[40], line 1
----> 1 raise customError("An error occured")

customError: An error occured
```

In [41]:
```
age = 10
if age == 10:
    raise customError("An error occured")
```

```
---------------------------------------------------------------------------
customError                               Traceback (most recent call last)
Cell In[41], line 3
      1 age = 10
      2 if age == 10:
----> 3     raise customError("An error occured")

customError: An error occured
```

In [42]:
```
class ValueSmallError(Exception):
    pass
```

In [43]:
```
n = int(input("Pass the input number : "))
if n < 10:
    raise ValueSmallError("value is too small")
```

```
Pass the input number : 3

---------------------------------------------------------------------------
ValueSmallError                           Traceback (most recent call last)
Cell In[43], line 3
      1 n = int(input("Pass the input number : "))
      2 if n < 10:
----> 3     raise ValueSmallError("value is too small")

ValueSmallError: value is too small
```

In [ ]:
```

```