Python Exception Handling

In [4]:
```
num1 = int(input("Please enter the first number: "))
num2 = int(input("Please enter the second number: "))
quotient = num1 / num2
print (f"So {num1} / {num2} = {quotient}")
print ("End of the program...")
```

```
So 100 / 20 = 5.0
End of the program...
```

In [5]:
```
num1 = int(input("Please enter the first number: "))
num2 = int(input("Please enter the second number: "))
quotient = num1 / num2
print (f"So {num1} / {num2} = {quotient}")
print ("End of the program...")
```

```
---------------------------------------------------------------------------
ZeroDivisionError                         Traceback (most recent call last)
<ipython-input-5-15b5835e8b9c> in <module>
      1 num1 = int(input("Please enter the first number: "))
      2 num2 = int(input("Please enter the second number: "))
----> 3 quotient = num1 / num2
      4 print (f"So {num1} / {num2} = {quotient}")
      5 print ("End of the program...")

ZeroDivisionError: division by zero
```

In [7]:
```
try:
    num1 = int(input("Please enter the first number: "))
    num2 = int(input("Please enter the second number: "))
    quotient = num1 / num2
    print (f"So {num1} / {num2} = {quotient}")
except ZeroDivisionError as zde:
    print ("ZeroDivisionError: Division by ZERO is Illegal...!!!")
    print ("ZeroDivisionError: So the error type is", type(zde))
    print ("ZeroDivisionError: So the error message is", zde)
print ("End of the program...")
```

```
ZeroDivisionError: Division by ZERO is Illegal...!!!
ZeroDivisionError: So the error type is <class 'ZeroDivisionError'>
ZeroDivisionError: So the error message is division by zero
End of the program...
```

In [10]:
```
try:
    num1 = int(input("Please enter the first number: "))
    num2 = int(input("Please enter the second number: "))
    quotient = num1 / num2
    print (f"So {num1} / {num2} = {quotient}")
except ZeroDivisionError as zde:
    print ("ZeroDivisionError: Division by ZERO is Illegal...!!!")
    print ("ZeroDivisionError: So the error type is", type(zde))
    print ("ZeroDivisionError: So the error message is", zde)
except ValueError as ve:
    print ("ValueError: Invalid input has been provided...!!!")
    print ("ValueError: So the error type is", type(ve))
    print ("ValueError: So the error message is", ve)
print ("End of the program...")
```

```
ValueError: Invalid input has been provided...!!!
ValueError: So the error type is <class 'ValueError'>
ValueError: So the error message is invalid literal for int() with base 10: 'two'
End of the program...
```

In [13]:
```
try:
    num1 = int(input("Please enter the first number: "))
    num2 = int(input("Please enter the second number: "))
    quotient = num1 / num2
    print (f"So {num1} / {num2} = {quotient}")
except ValueError as ve:
    print ("ValueError: Invalid input has been provided...!!!")
    print ("ValueError: So the error type is", type(ve))
    print ("ValueError: So the error message is", ve)
except ZeroDivisionError as zde:
    print ("ZeroDivisionError: Division by ZERO is Illegal...!!!")
    print ("ZeroDivisionError: So the error type is", type(zde))
    print ("ZeroDivisionError: So the error message is", zde)
print ("End of the program...")
```

```
ValueError: Invalid input has been provided...!!!
ValueError: So the error type is <class 'ValueError'>
ValueError: So the error message is invalid literal for int() with base 10: '4.2'
End of the program...
```

In [14]:

```
try:
    num1 = int(input("Please enter the first number: "))
    num2 = int(input("Please enter the second number: "))
    quotient = num1 / num2
    print (f"So {num1} / {num2} = {quotient}")
except ValueError as ve:
    print ("ValueError: Invalid input has been provided...!!!")
    print ("ValueError: So the error type is", type(ve))
    print ("ValueError: So the error message is", ve)
# except ZeroDivisionError as zde:
#     print ("ZeroDivisionError: Division by ZERO is Illegal...!!!")
#     print ("ZeroDivisionError: So the error type is", type(zde))
#     print ("ZeroDivisionError: So the error message is", zde)
except Exception as ex:
    print ("Exception: Some other exception has occurred...!!!")
    print ("Exception: So the error type is", type(ex))
    print ("Exception: So the error message is", ex)
print ("End of the program...")
```

```
Exception: Some other exception has occurred...!!!
Exception: So the error type is <class 'ZeroDivisionError'>
Exception: So the error message is division by zero
End of the program...
```

In [15]:

```
try:
    num1 = int(input("Please enter the first number: "))
    num2 = int(input("Please enter the second number: "))
    quotient = num1 / num2
    print (f"So {num1} / {num2} = {quotient}")
# except ValueError as ve:
#     print ("ValueError: Invalid input has been provided...!!!")
#     print ("ValueError: So the error type is", type(ve))
#     print ("ValueError: So the error message is", ve)
except ZeroDivisionError as zde:
    print ("ZeroDivisionError: Division by ZERO is Illegal...!!!")
    print ("ZeroDivisionError: So the error type is", type(zde))
    print ("ZeroDivisionError: So the error message is", zde)
except Exception as ex:
    print ("Exception: Some other exception has occurred...!!!")
    print ("Exception: So the error type is", type(ex))
    print ("Exception: So the error message is", ex)
print ("End of the program...")
```

```
Exception: Some other exception has occurred...!!!
Exception: So the error type is <class 'ValueError'>
Exception: So the error message is invalid literal for int() with base 10: '10.2'
End of the program...
```

In [18]:

```
try:
    num1 = int(input("Please enter the first number: "))
    num2 = int(input("Please enter the second number: "))
    quotient = num1 / num2
    print (f"So {num1} / {num2} = {quotient}")
except Exception as ex:
    print ("Exception: Some other exception has occurred...!!!")
    print ("Exception: So the error type is", type(ex))
    print ("Exception: So the error message is", ex)
except ValueError as ve:
    print ("ValueError: Invalid input has been provided...!!!")
    print ("ValueError: So the error type is", type(ve))
    print ("ValueError: So the error message is", ve)
except ZeroDivisionError as zde:
    print ("ZeroDivisionError: Division by ZERO is Illegal...!!!")
    print ("ZeroDivisionError: So the error type is", type(zde))
    print ("ZeroDivisionError: So the error message is", zde)
print ("End of the program...")
```

```
Exception: Some other exception has occurred...!!!
Exception: So the error type is <class 'ValueError'>
Exception: So the error message is invalid literal for int() with base 10: '100.4'
End of the program...
```

In [22]:

```
try:
    num1 = int(input("Please enter the first number: "))
```

```
    num2 = int(input("Please enter the second number: "))
    quotient = num1 / num2
    print (f"So {num1} / {num2} = {quotient}")
except ValueError as ve:
    print ("ValueError: Invalid input has been provided...!!!")
    print ("ValueError: So the error type is", type(ve))
    print ("ValueError: So the error message is", ve)
except ZeroDivisionError as zde:
    print ("ZeroDivisionError: Division by ZERO is Illegal...!!!")
    print ("ZeroDivisionError: So the error type is", type(zde))
    print ("ZeroDivisionError: So the error message is", zde)
except Exception as ex:
    print ("Exception: Some other exception has occurred...!!!")
    print ("Exception: So the error type is", type(ex))
    print ("Exception: So the error message is", ex)
else:
    print ("Else: This is the Else block executing...")
    print ("Else: Had a smooth execution...")
print ("End of the program...")
```

```
So 100 / 20 = 5.0
Else: This is the Else block executing...
Else: Had a smooth execution...
End of the program...
```

In [24]:

```
try:
    num1 = int(input("Please enter the first number: "))
    num2 = int(input("Please enter the second number: "))
    quotient = num1 / num2
    print (f"So {num1} / {num2} = {quotient}")
except ValueError as ve:
    print ("ValueError: Invalid input has been provided...!!!")
    print ("ValueError: So the error type is", type(ve))
    print ("ValueError: So the error message is", ve)
except ZeroDivisionError as zde:
    print ("ZeroDivisionError: Division by ZERO is Illegal...!!!")
    print ("ZeroDivisionError: So the error type is", type(zde))
    print ("ZeroDivisionError: So the error message is", zde)
except Exception as ex:
    print ("Exception: Some other exception has occurred...!!!")
    print ("Exception: So the error type is", type(ex))
    print ("Exception: So the error message is", ex)
else:
    print ("Else: This is the Else block executing...")
    print ("Else: Had a smooth execution...")
finally:
    print ("Finally: This is Finally block executing...")
    print ("Finally: This block executes always...")
print ("End of the program...")
```

```
ZeroDivisionError: Division by ZERO is Illegal...!!!
ZeroDivisionError: So the error type is <class 'ZeroDivisionError'>
ZeroDivisionError: So the error message is division by zero
Finally: This is Finally block executing...
Finally: This block executes always...
End of the program...
```

In [29]:

```
try:
    num1 = int(input("Please enter the first number within range (-100 to +100): "))
    num2 = int(input("Please enter the second number within range (-100 to +100): "))
    if (num1 < -100 or num2 < -100):
        raise NameError("Below-100")
    if (num1 > 100 or num2 > 100):
        raise NameError("Above100")
    quotient = num1 / num2
    print (f"So {num1} / {num2} = {quotient}")
except ValueError as ve:
    print ("ValueError: Invalid input has been provided...!!!")
    print ("ValueError: So the error type is", type(ve))
    print ("ValueError: So the error message is", ve)
except NameError as ne:
    print ("NameError: Input value is out of range...")
    if (str(ne) == "Below-100"):
        print ("NameError: Input value is LESS THAN -100...")
    elif (str(ne) == "Above100"):
        print ("NameError: Input value is GREATER THAN 100...")
except ZeroDivisionError as zde:
    print ("ZeroDivisionError: Division by ZERO is Illegal...!!!")
    print ("ZeroDivisionError: So the error type is", type(zde))
    print ("ZeroDivisionError: So the error message is", zde)
except Exception as ex:
    print ("Exception: Some other exception has occurred...!!!")
```

```
    print ("Exception: So the error type is", type(ex))
    print ("Exception: So the error message is", ex)
else:
    print ("Else: This is the Else block executing...")
    print ("Else: Had a smooth execution...")
finally:
    print ("Finally: This is Finally block executing...")
    print ("Finally: This block executes always...")
print ("End of the program...")
```

```
NameError: Input value is out of range...
NameError: Input value is GREATER THAN 100...
Finally: This is Finally block executing...
Finally: This block executes always...
End of the program...
```

CLASS ASSIGNMENT-1 / Day-2

> Rewrite the above code in such a way that until the division operation takes place successfully, the user will be asked to enter the pair of input values repeatedly.

In [30]:

```
while(True):
    try:
        num1 = int(input("Please enter the first number within range (-100 to +100): "))
        num2 = int(input("Please enter the second number within range (-100 to +100): "))
        if (num1 < -100 or num2 < -100):
            raise NameError("Below-100")
        if (num1 > 100 or num2 > 100):
            raise NameError("Above100")
        quotient = num1 / num2
        print (f"So {num1} / {num2} = {quotient}")
    except ValueError as ve:
        print ("ValueError: Invalid input has been provided...!!!")
        print ("ValueError: So the error type is", type(ve))
        print ("ValueError: So the error message is", ve)
    except NameError as ne:
        print ("NameError: Input value is out of range...")
        if (str(ne) == "Below-100"):
            print ("NameError: Input value is LESS THAN -100...")
        elif (str(ne) == "Above100"):
            print ("NameError: Input value is GREATER THAN 100...")
    except ZeroDivisionError as zde:
        print ("ZeroDivisionError: Division by ZERO is Illegal...!!!")
        print ("ZeroDivisionError: So the error type is", type(zde))
        print ("ZeroDivisionError: So the error message is", zde)
    except Exception as ex:
        print ("Exception: Some other exception has occurred...!!!")
        print ("Exception: So the error type is", type(ex))
        print ("Exception: So the error message is", ex)
    else:
        print ("Else: This is the Else block executing...")
        print ("Else: Had a smooth execution...")
        break
    finally:
        print ("Finally: This is Finally block executing...")
        print ("Finally: This block executes always...")
print ("End of the program...")
```

```
NameError: Input value is out of range...
NameError: Input value is LESS THAN -100...
Finally: This is Finally block executing...
Finally: This block executes always...

NameError: Input value is out of range...
NameError: Input value is GREATER THAN 100...
Finally: This is Finally block executing...
Finally: This block executes always...

ZeroDivisionError: Division by ZERO is Illegal...!!!
ZeroDivisionError: So the error type is <class 'ZeroDivisionError'>
ZeroDivisionError: So the error message is division by zero
Finally: This is Finally block executing...
Finally: This block executes always...

ValueError: Invalid input has been provided...!!!
ValueError: So the error type is <class 'ValueError'>
ValueError: So the error message is invalid literal for int() with base 10: 'two'
Finally: This is Finally block executing...
Finally: This block executes always...

ValueError: Invalid input has been provided...!!!
ValueError: So the error type is <class 'ValueError'>
ValueError: So the error message is invalid literal for int() with base 10: '100.5'
```

```
Finally: This is Finally block executing...
Finally: This block executes always...

So 100 / 20 = 5.0
Else: This is the Else block executing...
Else: Had a smooth execution...
Finally: This is Finally block executing...
Finally: This block executes always...
End of the program...
```

In [ ]: