TRY, EXCEPT AND FINALLY!

- Python will output different types of error notifications. These include:
  - TypeError
  - NameError
  - AttributeError
  - IndentationError
  - SyntaxError

- Python allows us to manage the output error instead of relying on Python itself.
- This is where **try**, **except** and **finally** clauses come in.
- These clauses can prevent errors from being fatal to your code.

In [87]:

```
try:
    print(10 + 90)
except:
    for i in range(3):
        print(i)
finally:
    print("END CODE")
```

```
100
END CODE
```

In [91]:

```
def error(var):

    try:
        return 10 + var

    except:
        print("Type Error Found!")
        print("STRING: " + str(10) + " " + var)
    finally:
        print("END CODE!")
error("hello")
```

```
Type Error Found!
STRING: 10 hello
END CODE!
```

In [95]:

```
def divide(x, y):

    try:
        res = x / y
        return res
    except ZeroDivisionError:
        print("Division by zero is forbidden!")
```

```
    except TypeError:
        print("can't be divided or divide by a string")

    finally:
        print("executing finally clause")
divide("10", "hello")
```

```
can't be divided or divide by a string
executing finally clause
```

In [98]:

```
while True:

    try:
        x = (input("Enter a valid integer: "))
        break
    except:

        print("Invalid input!")
```

```
Enter a valid integer: 9.12432
```

In [105]:

```
numbers =  10, 20, 30, 40
chance = 0
while chance < 3:
    try:

        num = input("Enter an integer: ")
        if eval(num) in numbers:
            print(num, "is in numbers")
            break

        elif num == "quit":
            break

        else:
            print("Not in numbers list")
            chance = chance + 1
    except:
        print("Try again, please!")
        chance = chance + 1
        continue
#     finally:
#         print("End code!")
```

```
Enter an integer: werfgre
Try again, please!
Enter an integer: efgre
Try again, please!
Enter an integer: efgre
Try again, please!
```

In [110]:

```
def friends():
    animals = "bird", "cat", "dog", "cow", "lamb", "pig"
    try:
        num = int(eval(input("Please select a friend: ")))
```

```
        try:
            if animals[num] in animals:
                print(animals[num])
        except:
                print("You did not choose a friend!")
        finally:
                print("________")
                for pet in animals:
                    print(pet)
                print("____END LOOP___")
    except:
        print("You did not enter a valid index!")
friends()
```

```
Please select a friend: 100
You did not choose a friend!
________
bird
cat
dog
cow
lamb
pig
____END LOOP___
```