try-except

- Generally python is a sequencital process
- which mean if you get error, the compiler will not execute other statements
- There is a situations even though if you got error at particular lines
- Compiler should execute some part of the code
- This is possibile by using try-except method
- we have two blocks
  - try block
    - original code will run under try block
  - except block
    - if any error comes it will redirect to except block

In [2]:
```
a=10
b=0
a/b
print("hello")
```

```
---------------------------------------------------------------------------
ZeroDivisionError                         Traceback (most recent call last)
Cell In[2], line 3
      1 a=10
      2 b=0
----> 3 a/b
      4 print("hello")

ZeroDivisionError: division by zero
```

case-1

- whenever we got the error in try block
- the comipler will execute statements of except block

In [4]:
```
try:
    a=10
    b=0
    print("the value a is:",a)
    a/b
    print("you will get error")
except:
    print("hello")
```

```
the value a is: 10
hello
```

case-2

- If there is no error in the try block
- the comipler will not execute statements of except block

In [6]:
```
try:
    a=10
    b=10
    print("the value a is:",a)
    print("the value b is:",b)
    print(a/b)
    print("you will not get error")
except:
    print("hello")
```

```
the value a is: 10
the value b is: 10
you will not get error
```

In [8]:
```
a=10
b=20
print(a)
print(b)
```

```
10
20
```

In [10]:
```
print("hai")
print("hello")

try:
    a=eval(input("enter a num1:"))
    b=eval(input("enter a num2:"))
    add=a+b
    print(f"the addition of {a} and {b} is: {add}")
except:
    print("error is there")
    print("check the code")

print("bye")
```

```
hai
hello
error is there
check the code
bye
```

In [11]:
```
print("hai")
print("hello")
########################################
try:
    a=eval(input("enter a num1:"))
    b=eval(input("enter a num2:"))
    add=a+b
    print(f"the addition of {a} and {b} is: {add}")
except:
    print("error is there")
    print("check the code")
    n1=100
    n2=200
    if n1>n2:
```

```
        print("n1 is greater")
    else:
        print("n2 is gretar")
#####################################################################
print("bye")
```

```
hai
hello
error is there
check the code
n2 is gretar
bye
```

Capture the errors

- Mainly try and except is used to capture the errors

In [ ]:
```
print("hai")
print("hello")

try:
    a=int(input("enter a num1:"))
    b=eval(input("enter a num2:"))
    add=a/b
    print(f"the addition of {a} and {b} is: {add}")
except:
    print("error is there")
    print("check the code")

print("bye")
```

- syntax error
  - if you miss the) , "", :
- name error
  - if you not defined any name that in black color
- indentation error
  - after : we need some space
- division error
  - some number divided by zero
- value error
  - number type conversion
- type error
  - any math operations on engish letters

In [14]:
```
n1=input("enter a num1:")
n2=input("enter a num1:")
n1*n2
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[14], line 3
      1 n1=input("enter a num1:")
      2 n2=input("enter a num1:")
----> 3 n1*n2

TypeError: can't multiply sequence by non-int of type 'str'
```

In [17]:
```
try:
    a=int(input("enter a num1:"))
    b=eval(input("enter a num2:"))
    add=a/b
    print(f"the addition of {a} and {b} is: {add}")
except:
    print("value error")
```

```
value error
```

In [28]:
```
try:
    a=int(input("enter a num1:"))
    b=eval(input("enter a num2:"))
    add=a/b
    print(f"the addition of {a} and {b} is: {add}")
except Exception as e:
    print(e)
```

```
the addition of 10 and 10 is: 1.0
```

syntax errors will not capture by exception block

In [ ]:
```
# Apply try-exception block for even -odd program
# wap implment above the code
# by taking number randomly between 10,100

import random
try:
    num=random.randint(10,100)
    if num%2==0:
        print(f"the {num} is even")
    else:
        print(f"the {num} is odd")
except Exception as e:
    print(e)
```

In [ ]:
```
# Game program
# there are two numbers
# num1 comes from random
# num2 is taking from the keyboard
# if both numbers are equal
#     then print  you won
# else
#       print you loss
import random
num1=random.randint(1,10)
print(num1)
num2=eval(input("enter the number:"))
if num1==num2:
    print("won")
```

```
else:
    print("loss")
```

In [ ]:
```
# wap ask the user enter how much distance need to travel
#     ask the user enter charge per km
#     if the distance >25 km
#          then print total charge
#     otherwise
#          print free ride

dist = eval(input("How much distance need to travel :"))
if dist > 25:
    charge = eval(input("Enter charge per km: "))
    print(f"Total charge : {dist*charge}")
else:
    print("It is free ride")
```

In [ ]:
```
# wap ask the user enter a number
# if number equal to 1 then print 1: if
# if number equal to 2 then print 2: elif
# if number equal to 3 then print 3: elif
# if number equal to 4 then print 4: elif
# other wise print bye: else

num = eval(input("enter a number"))
if num==1:
    print(f"{num} is mach")
elif num==2:
    print(f"{num} is mach")
elif num==3:
    print(f"{num} is mach")
elif num==4:
    print(f"{num} is mach")
else:
    print("number not mach")
```

In [ ]:
```
# wap ask the user
# enter marks percentage
# If percentage greater than 90 then print A grade
# If percentage between 70 and 90 then print B grade
# If percentage between 50 and 70 then print C grade
# If percentage between 35 and 50 then print D grade
# otherwise print fail

per=eval(input('enter percentage '))
if per>=90:
    print('A grade')
elif per>=70 :
    print('B grade')
elif per>=50 :
    print('C grade')
elif per>=35 :
    print('D grade')
else :
    print('fail')
```

In [ ]:
```
# wap ask the user
# enter age
# If age greater than 90 then print lucky man
```

```
# If age between 70 and 90 then print old man
# If age between 50 and 70 then print SC
# If age between 35 and 50 then print Middile aged
# If age between 20 and 35 then print young
# If age between 13 and 20 then print teen
# otherwise print kid


age=eval(input('enter percentage '))
if age>=90:
    print('Lucky person')
elif age>=70 :
    print('OLD')
elif age>=50 :
    print('SC')
elif age>=35 :
    print('MA')
elif age>=20 :
    print('young')
elif age>=13 :
    print('teen')
else :
    print('kid')
```

In [ ]:
```
num1= eval(input("Enter the 1st num :"))
num2= eval(input("Enter the 2nd num :"))

print("Enter the operation 1 for addition")
print("Enter the operation 2 for subtraction")
print("Enter the operation 3 for multiplication")
print("Enter the operation 4 for division")

operation=eval(input("Enter the values between 1 to 4 :"))
if operation==1:
    add=num1+num2
    print(f"The sum is {add}")
elif operation==2:
    sub=num1-num2
    print(f"The subtraction is {sub}")
elif operation==3:
    mul=num1*num2
    print(f"The multiplication is {mul}")
elif operation==4:
    div=num1%num2
    print(f"The division is {div}")
else:
    print(f"not a valid operation")
```

In [ ]:
```
gender= input("enter the gender:")
if gender=='male':
    age=eval(input("enter the age:"))
    if age>=30:
        print("MAM")
    else:
        print("boy")
elif gender=='female':
    age=eval(input("enter the age:"))
    if age>=30:
        print("MAW")
```

```
    else:
        print("girl")
else:
    print('valid gender')
```

In [ ]:
```
gender = (input("enter the gender : "))
if gender ==  'female':
    print("Enter yes if you have  ID CARD")
    print("Enter No if you dont have  ID CARD")
    id  = (input(" Enter Yes or No "))
    if  id == 'yes' :
        print("Enjoy Free Ride")
    else:
        dis = eval(input("how much distnace need to travel"))
        charge = eval(input("enter charge per km"))
        print(f"total charge is {dis*charge}")
elif gender ==  'male':
    dis = eval(input("how much distnace need to travel"))
    charge = eval(input("enter charge per km"))
    print(f"total charge is {dis*charge}")
else :
    print('enter valid gender')
```

In [35]:
```
perrr=input('enter percentage ')
try:
    if perrr>=90:
        print('A grade')
    elif perrr>=70 :
        print('B grade')
    elif perrr>=50 :
        print('C grade')
    elif perrr>=35 :
        print('D grade')

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

```
'>=' not supported between instances of 'str' and 'int'
```

In [ ]:
```

```