

### Assignment 3

```
In [4]: # Task 1

'''
1. Write a function to compute 5/0 and use try/except to catch the exceptions.
'''
def div():
    return 5/0

try:
    div()
except ZeroDivisionError as ze :
    print("It is always ZERO")
except:
    print("other exception")
```

It is always ZERO

```
In [8]: '''
2. Implement a Python program to generate all sentences where subject is in
["Americans", "Indians"] and verb is in ["Play", "watch"] and the object is in
["Baseball", "cricket"].

Hint: Subject, Verb and Object should be declared in the program as shown below.
subjects= ["Americans ", "Indians"]
verbs= ["play", "watch"]
objects= ["Baseball", "Cricket"]

Output should come as below:
Americans play Baseball.
Americans play Cricket.
Americans watch Baseball.
Americans watch Cricket.
Indians play Baseball.
Indians play Cricket.
Indians watch Baseball.
Indians watch Cricket.

'''

subject = ["Americans", "Indians"]
verb = ["Play", "watch"]
obj = ["Baseball", "cricket"]

s_list = [str(s+" "+ v + " " + o) for s in subject for v in verb for o in obj]
for i in s_list:
    print(i)
```

Americans Play Baseball  
Americans Play cricket  
Americans watch Baseball  
Americans watch cricket  
Indians Play Baseball  
Indians Play cricket  
Indians watch Baseball  
Indians watch cricket

```
In [10]: # Task 2

'''
1. Write a function so that the columns of the output matrix are powers of the input vector.
The order of the powers is determined by the increasing boolean argument. Specifically, when
increasing is False, the i-th output column is the input vector raised element-wise to the p
ower
of N - i - 1.

HINT: Such a matrix with a geometric progression in each row is named for AlexandreTheophile
Vandermonde.

'''

import numpy as np
x = np.array([1,2,3,4,5])
N = 4
np.vander(x,N)
```

Out[10]: array([[ 1, 1, 1, 1],  
[ 8, 4, 2, 1],  
[27, 9, 3, 1],  
[64, 16, 4, 1],  
[125, 25, 5, 1]])