CLASS ACTIVITY

The codes demonstrate the performance of GPU and CPU in Single Instruction Multiple Data (SIMD) with parallelization in distributing System Development with python 3.7. Write your observations of the output?

In [1]:
```
# introduce a library by writing 1 line of code
#CODE START HERE

#CODE END HERE
```

In [2]:
```
a =np.array([1,2,3,4])
print(a)
```

```
[1 2 3 4]
```

In [3]:
```
# introduce a library by writing 1 line of code
#CODE START HERE

#CODE END HERE
```

In [4]:
```
A =np.random.rand(1000000)
B =np.random.rand(1000000)
tic = time.time()
c = np.dot(A, B)
toc = time.time()
print(c)
```

In [5]:
```
print("vectorized version:" +str(1000*(toc-tic)) +"ms")
```

In [6]:
```
    # initialize the value of D to zeros vector
    # D =
    #CODE START HERE
    D =
    #CODE END HERE
    tac = time.time()
    for i in range(1000000):
        D +=A[i]* B[i]
    toc =time.time()
    print(c)
    print("For loop:" +str(1000*(toc - tac)) +"ms")
```