In [1]:
```python
import threading
import time
```

Threads

In [2]:
```python
def longSquare(num):
    time.sleep(1)
    return num**2

[longSquare(n) for n in range(0, 5)]
```

Out[2]: [0, 1, 4, 9, 16]

In [3]:
```python
t1 = threading.Thread(target=longSquare, args=(1,))
t2 = threading.Thread(target=longSquare, args=(2,))

t1.start()
t2.start()

t1.join()
t2.join()
```

In [4]:
```python
def longSquare(num, results):
    time.sleep(1)
    results[num] = num**2

results = {}
t1 = threading.Thread(target=longSquare, args=(1,results))
t2 = threading.Thread(target=longSquare, args=(2,results))

t1.start()
t2.start()

t1.join()
t2.join()

print(results)
```

{2: 4, 1: 1}

In [6]:

```python
def longSquare(num, results):
    time.sleep(1)
    results[num] = num**2

results = {}
threads = [threading.Thread(target=longSquare, args=(n, results)) for n in rang
[t.start() for t in threads]
[t.join() for t in threads]
print(results)
```

```
{2: 4, 1: 1, 0: 0, 8: 64, 9: 81, 16: 256, 17: 289, 19: 361, 30: 900, 25: 625,
28: 784, 29: 841, 3: 9, 13: 169, 15: 225, 21: 441, 22: 484, 4: 16, 14: 196,
6: 36, 20: 400, 39: 1521, 40: 1600, 5: 25, 42: 1764, 43: 1849, 44: 1936, 45:
2025, 47: 2209, 7: 49, 38: 1444, 37: 1369, 32: 1024, 41: 1681, 46: 2116, 10:
100, 11: 121, 12: 144, 18: 324, 33: 1089, 23: 529, 70: 4900, 75: 5625, 82: 67
24, 85: 7225, 86: 7396, 91: 8281, 92: 8464, 94: 8836, 95: 9025, 96: 9216, 97:
9409, 98: 9604, 99: 9801, 63: 3969, 81: 6561, 26: 676, 35: 1225, 36: 1296, 4
9: 2401, 50: 2500, 51: 2601, 52: 2704, 53: 2809, 60: 3600, 66: 4356, 74: 547
6, 77: 5929, 79: 6241, 83: 6889, 84: 7056, 87: 7569, 93: 8649, 24: 576, 27: 7
29, 64: 4096, 61: 3721, 65: 4225, 69: 4761, 73: 5329, 78: 6084, 90: 8100, 62:
3844, 31: 961, 34: 1156, 67: 4489, 68: 4624, 80: 6400, 88: 7744, 89: 7921, 4
8: 2304, 57: 3249, 71: 5041, 72: 5184, 76: 5776, 54: 2916, 56: 3136, 55: 302
5, 58: 3364, 59: 3481}
```

In [ ]: