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Course: Operating Systems (CS312)

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Muhammad Waleed
20b-115-se
SE-B
OS Lab#07
Ma'am Shabina Mushtaq

Lab Tasks:

1. Modify Example 1 to display strings via two independent threads: thread1: "Hello ! StudentName____", thread 2: "Student roll no is : _____"

```
import threading,time

def thread1(prompt):
    print(f"Hello {prompt}!")
    time.sleep(5)

def thread2(prompt):
    print(f"Student roll no is{prompt}")
    time.sleep(5)

if __name__ == '__main__':
    t1 = threading.Thread(target=thread1,args=('Muhammad Waleed',))
    t2 = threading.Thread(target=thread2,args=('20b-115-se',))
    t1.start()
    t2.start()

    print('main thread')

    t1.join()
    t2.join()

    print('all done')
```

Output:

```
PS G:\Other computers\My Laptop\OS\Labs\Lab#07>
python C:\Users\My Laptop\OS\Labs\Lab#07\task1.py"
Hello Muhammad Waleed!
Student roll no is20b-115-se
main thread
all done
PS G:\Other computers\My Laptop\OS\Labs\Lab#07>
```

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2. Create threads message as many times as user wants to create threads by using array of threads and loop. Threads should display message that is passed through argument.

```
import threading, random, time

def displayMsg(msg):
    print(msg)

if __name__ == '__main__':
    threads = []
    n = int(input("Enter number of threads: "))
    for i in range(n):
        threads.append(threading.Thread(target=displayMsg, args=(f"[Thread {i+1}]: Dice {random.randint(1,6)}",)))

    for i in range(n):
        threads[i].start()
        time.sleep(1)

    for i in range(n):
        threads[i].join()
```

Output:

```
all done
PS G:\Other computers\My Laptop\OS\Labs\
users\My Laptop\OS\Labs\Lab#07\task2.py"
Enter number of threads: 4
[Thread 1]: Dice 4
[Thread 2]: Dice 5
[Thread 3]: Dice 5
[Thread 4]: Dice 2
PS G:\Other computers\My Laptop\OS\Labs\
```