Machine Problem 6

SyncSum(65 points): *First write the program then add the result and explanation to your worksheet. Submit both on blackboard.*

Program(45 points)

Create a class called MySum. MySum should have

- one instance variable “sum” that initially is 0.
- one method “increaseSum”, which will first sleep for 100 milliseconds, then increase “sum” by 1 and print out the current thread name and value of “sum”.

Write a program that launches 100 threads. Each thread should share the same instance of the MySum class and invoke the “increaseSum” method.

- Run the program first without synchronization and add the result to your worksheet
- Run the program with method synchronization
- Comment out the method synchronization and change your code to use block synchronization. Add the result to your worksheet.

Result without synchronization should look like this:	Result with synchronization should look like this:
Thread-11 sum is: 53 Thread-59 sum is: 58 Thread-60 sum is: 59 Thread-62 sum is: 62 . . . Thread-57 sum is: 58 Thread-89 sum is: 97 Thread-32 sum is: 53	Thread-1 sum is: 1 Thread-69 sum is: 2 Thread-73 sum is: 3 Thread-81 sum is: 4 . . . Thread-79 sum is: 97 Thread-72 sum is: 98 Thread-71 sum is: 99 Thread-70 sum is: 100

Explanation(20 points)

In your own words compare the different behaviors of the three runs of your code(sync vs no sync, method sync vs block sync), and explain why it happened.