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CSC 332 Section H

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Assignment #3 Report

Screenshot of the Output:

Not Using the Lock:

```
stefantan@Stefans-MacBook-Air assignment_03 % ./assignment_03
North Tunbridge #1 farmer can cross the bridge
South Tunbridge #3 farmer can cross the bridge
South Tunbridge #3 is traveling on the bridge...
North Tunbridge #2 farmer can cross the bridge
North Tunbridge #4 is traveling on the bridge...
North Tunbridge #3 farmer can cross the bridge
North Tunbridge #4 is traveling on the bridge...
South Tunbridge #1 farmer can cross the bridge
South Tunbridge #3 is traveling on the bridge...
South Tunbridge #4 farmer can cross the bridge
South Tunbridge #2 farmer can cross the bridge
South Tunbridge #4 is traveling on the bridge...
North Tunbridge #5 farmer can cross the bridge
South Tunbridge #4 farmer has left the bridge

North Tunbridge #4 farmer can cross the bridge
South Tunbridge #5 farmer can cross the bridge
North Tunbridge #5 is traveling on the bridge...
North Tunbridge #5 is traveling on the bridge...
South Tunbridge #5 is traveling on the bridge...
South Tunbridge #4 farmer has left the bridge

North Tunbridge #3 is traveling on the bridge...
South Tunbridge #4 is traveling on the bridge...
South Tunbridge #5 farmer has left the bridge

North Tunbridge #5 farmer has left the bridge

North Tunbridge #5 farmer has left the bridge

North Tunbridge #5 farmer has left the bridge

South Tunbridge #5 farmer has left the bridge

North Tunbridge #5 farmer has left the bridge

South Tunbridge #5 farmer has left the bridge

North Tunbridge #5 farmer has left the bridge

stefantan@Stefans-MacBook-Air assignment_03 %
```

Using the Lock:

Questions:

1. What type of lock is your code using?

   The type of lock my code is using is a mutex lock. The mutex lock will ensure that only one farmer will be able to travel on the bridge at a time. The other farmers will have to wait for the farmer on the bridge to leave before another farmer can enter the

bridge.

2. How many threads does your program use? Are there an equal number of North and South threads?

    My program uses 10 threads overall. There are 5 threads that represent the North Tunbridge farmers and 5 threads that represent the South Tunbridge farmers. Thus, there are an equal number of North and South threads.