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Assignment 3 Report

Professor Zaid

Report:

1. What type of lock is your code using?

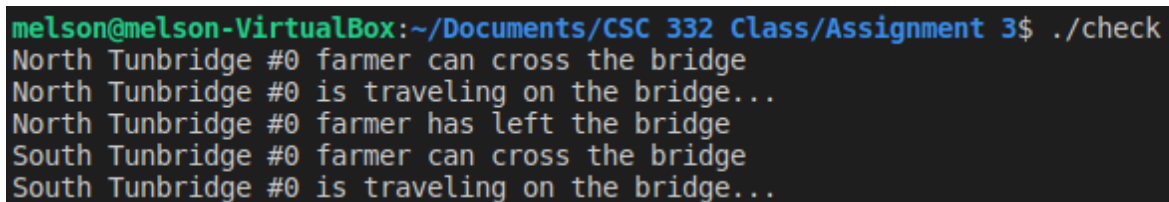
The lock that was being used is the mutex lock.

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

There are 60 processes that this program forks. There was an equal number of North and South processes.

Screenshot of the output:

With the lock:

A screenshot of a terminal window with a black background and green text. The prompt is 'melson@melson-VirtualBox:~/Documents/CSC 332 Class/Assignment 3\$'. The command './check' has been executed, resulting in five lines of output: 'North Tunbridge #0 farmer can cross the bridge', 'North Tunbridge #0 is traveling on the bridge...', 'North Tunbridge #0 farmer has left the bridge', 'South Tunbridge #0 farmer can cross the bridge', and 'South Tunbridge #0 is traveling on the bridge...'.

```
melson@melson-VirtualBox:~/Documents/CSC 332 Class/Assignment 3$ ./check
North Tunbridge #0 farmer can cross the bridge
North Tunbridge #0 is traveling on the bridge...
North Tunbridge #0 farmer has left the bridge
South Tunbridge #0 farmer can cross the bridge
South Tunbridge #0 is traveling on the bridge...
```

(With the sleep)

```
North Tunbridge #0 farmer can cross the bridge
North Tunbridge #0 is traveling on the bridge...
North Tunbridge #0 farmer has left the bridge
South Tunbridge #0 farmer can cross the bridge
South Tunbridge #0 is traveling on the bridge...
South Tunbridge #0 farmer has left the bridge
North Tunbridge #1 farmer can cross the bridge
North Tunbridge #1 is traveling on the bridge...
North Tunbridge #1 farmer has left the bridge
South Tunbridge #1 farmer can cross the bridge
South Tunbridge #1 is traveling on the bridge...
South Tunbridge #1 farmer has left the bridge
South Tunbridge #2 farmer can cross the bridge
South Tunbridge #2 is traveling on the bridge...
South Tunbridge #2 farmer has left the bridge
North Tunbridge #2 farmer can cross the bridge
North Tunbridge #2 is traveling on the bridge...
North Tunbridge #2 farmer has left the bridge
South Tunbridge #3 farmer can cross the bridge
South Tunbridge #3 is traveling on the bridge...
South Tunbridge #3 farmer has left the bridge
North Tunbridge #3 farmer can cross the bridge
North Tunbridge #3 is traveling on the bridge...
North Tunbridge #3 farmer has left the bridge
South Tunbridge #4 farmer can cross the bridge
South Tunbridge #4 is traveling on the bridge...
South Tunbridge #4 farmer has left the bridge
North Tunbridge #4 farmer can cross the bridge
North Tunbridge #4 is traveling on the bridge...
North Tunbridge #4 farmer has left the bridge
South Tunbridge #5 farmer can cross the bridge
South Tunbridge #5 is traveling on the bridge...
South Tunbridge #5 farmer has left the bridge
South Tunbridge #6 farmer can cross the bridge
South Tunbridge #6 is traveling on the bridge...
South Tunbridge #6 farmer has left the bridge
North Tunbridge #5 farmer can cross the bridge
North Tunbridge #5 is traveling on the bridge...
North Tunbridge #5 farmer has left the bridge
North Tunbridge #6 farmer can cross the bridge
North Tunbridge #6 is traveling on the bridge...
North Tunbridge #6 farmer has left the bridge
South Tunbridge #7 farmer can cross the bridge
South Tunbridge #7 is traveling on the bridge...
South Tunbridge #7 farmer has left the bridge
North Tunbridge #7 farmer can cross the bridge
North Tunbridge #7 is traveling on the bridge...
North Tunbridge #7 farmer has left the bridge
South Tunbridge #8 farmer can cross the bridge
South Tunbridge #8 is traveling on the bridge...
South Tunbridge #8 farmer has left the bridge
```

(Final Output)

Without the lock:

```
melson@melson-VirtualBox:~/Documents/CSC 332 Class/Assignment 3$ ./check
North Tunbridge #0 farmer can cross the bridge
North Tunbridge #0 is traveling on the bridge...
North Tunbridge #0 farmer has left the bridge
South Tunbridge #0 farmer can cross the bridge
South Tunbridge #0 is traveling on the bridge...
South Tunbridge #0 farmer has left the bridge
North Tunbridge #1 farmer can cross the bridge
North Tunbridge #1 is traveling on the bridge...
North Tunbridge #1 farmer has left the bridge
South Tunbridge #1 farmer can cross the bridge
South Tunbridge #1 is traveling on the bridge...
South Tunbridge #1 farmer has left the bridge
South Tunbridge #2 farmer can cross the bridge
South Tunbridge #2 is traveling on the bridge...
South Tunbridge #2 farmer has left the bridge
North Tunbridge #2 farmer can cross the bridge
North Tunbridge #2 is traveling on the bridge...
North Tunbridge #2 farmer has left the bridge
North Tunbridge #3 farmer can cross the bridge
North Tunbridge #3 is traveling on the bridge...
North Tunbridge #3 farmer has left the bridge
South Tunbridge #3 farmer can cross the bridge
South Tunbridge #3 is traveling on the bridge...
South Tunbridge #3 farmer has left the bridge
South Tunbridge #4 farmer can cross the bridge
South Tunbridge #4 is traveling on the bridge...
South Tunbridge #4 farmer has left the bridge
North Tunbridge #4 farmer can cross the bridge
North Tunbridge #4 is traveling on the bridge...
North Tunbridge #4 farmer has left the bridge
North Tunbridge #5 farmer can cross the bridge
North Tunbridge #5 is traveling on the bridge...
North Tunbridge #5 farmer has left the bridge
South Tunbridge #5 farmer can cross the bridge
South Tunbridge #5 is traveling on the bridge...
South Tunbridge #5 farmer has left the bridge
North Tunbridge #6 farmer can cross the bridge
North Tunbridge #6 is traveling on the bridge...
North Tunbridge #6 farmer has left the bridge
South Tunbridge #6 farmer can cross the bridge
South Tunbridge #6 is traveling on the bridge...
South Tunbridge #6 farmer has left the bridge
North Tunbridge #7 farmer can cross the bridge
North Tunbridge #7 is traveling on the bridge...
North Tunbridge #7 farmer has left the bridge
South Tunbridge #7 farmer can cross the bridge
South Tunbridge #7 is traveling on the bridge...
South Tunbridge #7 farmer has left the bridge
```

(Final Output)