

Name:

ID #:

Quiz 3

CMPS 405: Operating Systems

Fall 2015

Dr. Ryan Riley

Imagine that you are programming in a version of Java that only has access to one synchronization primitive: `TestAndSet`. Assume `TestAndSet` is a object you can use as follows:

```
// Initialize a new TestAndSet object, set its initial value to 0
TestAndSet ts = new TestAndSet(false);
// Set the value to true and return the old value:
boolean oldVal = ts.set(true);
```

Use `TestAndSet` to build a semaphore class. Fill in your solution to the skeleton code below:

```
public class Semaphore {
```

```
    public Semaphore(int value) {
```

```
}
```

```
public synchronized void acquire() {
```

```
}
```

```
public synchronized void release() {
```

```
    }  
}
```