

Homework 2

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1. The following is the output of my program:

```
./coin -n 10000 -p 200
```

```
coins: X0X0X0000X0X0X000XX (start -global lock)
```

```
coins: 00X0X0XXX0XXX0X00000 (end -global lock)
```

```
200 threads x 10000 flips: 17972.142000
```

```
coins: 00X0X0XXX0XXX0X00000 (start -iteration lock)
```

```
coins: 000X00X0X00XXX0000XX (end -iteration lock)
```

```
200 threads x 10000 flips: 19015.745000
```

```
coins: 000X00X0X00XXX0000XX (start -coin lock)
```

```
coins: 00XX00X0X0XX000X0XX0 (end -coin lock) 200 threads x 10000
```

```
flips: 3360.606000
```

Here, the most time taken is by coin lock as the one thread has to go through 10000×20 locks, while iteration has to go through just 10000 locks and the global lock has to go through just 1 lock for each thread. As, more lock means the section inside the lock can not run simultaneously for different threads, so we have the above result.