Worksheet #35: Branching in SIMD code

Name: _____   **Netid:** _____

Consider SIMD execution of the following pseudocode with 8 threads. Assume that each call to doWork(x) takes x units of time, and ignore all other costs. How long will this program take when executed on 8 GPU cores, taking into consideration the branching issues discussed in Slide 9?

```
1. int tx = threadIdx.x; // ranges from 0 to 7
2. if (tx % 2 = 0) {
3.    S1: doWork(1); // Computation S1 takes 1 unit of time
4. }
5. else {
6.    S2: doWork(2); // Computation S2 takes 2 units of time
7. }
```