CS/EE 451 PHW3

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P1

Running on Discovery

Serial execution:

```
[jackl@discovery PHW3]$ ./p1_serial
Estimated pi is 3.142402, execution time = 0.336801 sec
```

4 threads with DO/for directive:

```
[jackl@discovery PHW3]$ ./p1a
Estimated pi is 3.142402, execution time = 0.161105 sec
```

2 threads with SECTIONS directive:

```
[jackl@discovery PHW3]$ ./p1b
Estimated pi is 3.142402, execution time = 0.287260 sec
```

P2

Running on Discovery

Serial execution:

```
[jackl@discovery PHW3]$ ./p2_serial
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Execution time = 1.984580 sec
```

2 threads:

```
[jackl@discovery PHW3]$ ./p2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Execution time = 0.998336 sec
```

P3

Running on Mac OS once per p value, where p is the number of threads

Serial execution (p = 1 by default):

```
lordchingiss@MacBook-Pro PHW3 % ./p3
Execution time = 0.837923 sec
```

For p = 2:

```
lordchingiss@MacBook-Pro PHW3 % ./p3 2
Execution time = 0.441394 sec
```

For p = 4:

```
lordchingiss@MacBook-Pro PHW3 % ./p3 4
Execution time = 0.258860 sec
```

For p = 8:

```
lordchingiss@MacBook-Pro PHW3 % ./p3 8
Execution time = 0.157602 sec
```

The execution times are about the same as those for the parallel version implemented in PHW2.

NOTE: Makefile target p3 for this problem will compile only on Mac not Linux. Other Makefile targets compile on Discovery fine but not Mac. I tested P3 on Mac to be consistent with the previous PHW's concerning K-Means algorithm.