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Project 0

1. Tell what machine you ran this on

   I ran this on flip which is Linux

2. What performance results did you get?

   I ran with an array size of 10000 and 100 tries. Here are my performance results

   ```
   Using 4 threads
      Peak Performance =    886.07 MegaMults/Sec
   Average Performance =    820.91 MegaMults/Sec

   Using 1 threads
      Peak Performance =    302.46 MegaMults/Sec
   Average Performance =    298.14 MegaMults/Sec
   ```

3. What was your 4-thread-to-one-thread speedup?

   S = (Execution time with four threads) / (Execution time with one thread)

   S = 820.91 / 298.14 = 2.7534

4. Why do you think it is behaving this way?

   The four threads are sharing the processor so they will take more time sharing the processor than one thread which could use the whole processor alone for its given task.

5. What was your Parallel Fraction, Fp?

   ```
   float Fp = (4./3.)*( 1. - (1./2.7534) );
   Fp = 0.849
   ```