Fall 2021 COP5615

Project 1 Report

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1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Work Unit | Actor | CPU | REAL | CPU utilization |
| 125 | 80000 | 214.729 | 119.117 | 1.803 |
| 1250 | 8000 | 131.324 | 27.799 | 4.724 |
| 12500 | 800 | 128.693 | 23.373 | 5.506 |
| 125000 | 80 | 153.601 | 23.800 | 6.454 |
| 1250000 | 8 | 85.987 | 18.384 | 4.677 |

Work Unit in the table above = 10,000,000 / Actor. 10,000,00 is the total number of strings we have.

Based on the table above, the larger size of work unit is, the relative higher ratio we get. The ratio increases from 1.803 to 6.454, and then decreases to 4.667.

When the work unit is 125000, the performance for our implementation is the best because the ratio is the highest.

2.

The result of running your program for input 4 is:

Text

Description automatically generated

3.

Text

Description automatically generated

Ratio = CPU / Real = 10.441 / 2.225 = 4.693

4.

The coin with the most 0s we managed to find is 6.

Text

Description automatically generated

5.

The largest number of working machines we were able to run our code with is 1. But we can run two terminals in a laptop.