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Homework 4

2.

For 1-4 processes, the program outputs:

How many processes? 1

Process 9324 total time was 3.525903 seconds. $x = 1000000000$.

How many processes? 2

Process 9352 total time was 1.789058 seconds. $x = 500000000$.

Process 9351 total time was 1.790322 seconds. $x = 500000000$.

How many processes? 3

Process 9366 total time was 1.354642 seconds. $x = 333333333$.

Process 9365 total time was 1.554374 seconds. $x = 333333333$.

Process 9364 total time was 1.716725 seconds. $x = 333333333$.

How many processes? 4

Process 9385 total time was 1.452726 seconds. $x = 250000000$.

Process 9386 total time was 1.454252 seconds. $x = 250000000$.

Process 9387 total time was 1.457931 seconds. $x = 250000000$.

Process 9384 total time was 1.460100 seconds. $x = 250000000$.

This is the expected output as every process is forked when $x=0$ and accumulated independently to $1000000000/\text{the number of processes}$. The time each process runs decreases as well because it has to accumulate to a lower number, about 3.5 seconds for 1 process, 1.8 seconds for 2, 1.5 seconds for 3, and 1.4 seconds for 4 processes.