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CS499: Parallel Programming
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Assignment 4: Programming with PThreads #2

Question 1)

I started by diagramming each “scene” of the program (which I can send if you care). At first, I thought to make lines for both the left and right handed mitts. When I started drawing out the lines, I realized that the lines defeated the purpose of making this parallel. After figuring out the details, I wrote the basic print functions first. I tested each addition until all I needed to finish was the two difficult functions and the looping factor. Honestly, once I understood how each part worked it was easy to put together.

Example output:

```
[Cautious baker 2] has got a right-handed mitt...
[Cautious baker 2] has put cookies in the oven and is waiting...
[Left-handed baker 2] has taken cookies out of the oven...
[Left-handed baker 2] has put back a left-handed mitt...
[Cautious baker 4] wants a left-handed mitt...
[Cautious baker 4] has got a left-handed mitt...
[Cautious baker 4] wants a right-handed mitt...
[Cautious baker 4] has got a right-handed mitt...
[Cautious baker 4] has put cookies in the oven and is waiting...
[Cautious baker 2] has taken cookies out of the oven...
[Cautious baker 2] has put back a left-handed mitt...
[Cautious baker 2] has put back a right-handed mitt...
[Cautious baker 3] has taken cookies out of the oven...
[Cautious baker 3] has put back a left-handed mitt...
[Cautious baker 3] has put back a right-handed mitt...
[Cautious baker 4] has taken cookies out of the oven...
[Cautious baker 4] has put back a left-handed mitt...
[Cautious baker 4] has put back a right-handed mitt...
cabox@C_Environment:~/workspace/CS499_Parallel_Programming/Assignment4$ ./bakery 3 4 5 42 | python check_bakery.py
Checking that the output is well-formatted...
    Detected 3 left-handed bakers
    Detected 4 right-handed bakers
    Detected 5 cautious bakers
Checking that every baker does its required number of operations...
    Every thread does what it needs to do 10 times.
Checking that no more mitts are taken than there are available...
    No more mitts are used than are available.
Checking that bakers are able to bake at the same time...
    Bakers can bake concurrently.
NO ERRORS DETECTED
cabox@C_Environment:~/workspace/CS499_Parallel_Programming/Assignment4$
```