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Homework 5

1.
Example where client answers correctly:

Server:	Client:
./server.o 2048 Listening for client... Client was correct.	./client.o localhost 2048 Why did the intern delete the repository? because he didn't git it Correct! because he didn't git it Hooray!

Example where client answers incorrectly:

Server:	Client:
./server.o 2048 Listening for client... Client was incorrect.	./client.o localhost 2048 Why did the intern delete the repository? idk Incorrect! because he didn't git it ... and neither did you. You're stupid.

2.
The program yields the following output with a sample rate of .01:
./q2.o

Local min 1: -186.68

Local min 2: -64.68

Global min: -186.68

By splitting the computation space over x1 in half and having each child of the two child processes pipe the local minimum back to the parent.

3.
Likewise, calculating the global minimum with threads yields:
./q3.o

Local min 1: -186.68

Local min 2: -64.68

Global min: -186.68

Ultimately, the threading solution is better because it is less confusing to read through and debug than by having to keep track of a bunch of forked processes. The thread is also neatly modularized into a run function, allowing for easier abstraction and modification in the future. Finally, implementing a concurrent system via threads is closer to the level of abstraction at which the developer is likely thinking when designing the system, ie, that of creating concurrent tasks that don't interact with each other in complex ways as with forked processes and pipes.