Task 2

1) Each child is an exact copy of the parent. That means that it also has a copy of the variables of the parent process at the time of creation. Therefore, when shield_power is incremented by any of the child processes, they are only changing their variable, not the parent's variable. The shield_power of the parent is not changed from when the child processes run, so it is still the same when control is returned to the parent process.

2) Each child is a separate process from the parent. it is up to the short term scheduler of the CPU to determine which process gets to do work first. Because of the non-deterministic nature of short-term schedulers, the output will vary, since sometimes one child will get picked by this algorithm before the others do.

Task 3

I would make the checkout process independent of each user, so that one user placing an order does not interfere with anyone else. There could also by a way to have different processes running certain parts of the order process, such as processing payment, checking the inventory to ensure the user can actually buy the item. Both of those by themselves can take quite a bit of time, so I think it would make sense to have those running separately.