- What does "blocking" or "to block" mean?

Blocking is a common technique used in many programming models and paradigms to synchronize multiple threads or processes and to coordinate their activities.

- In what ways is using event-based concurrency easier than thread-based?

Event-based concurrency is a simpler programming model because you wait for something, such as an event, to occur and when it does you check what type of event it is and do the work it requires. Overall this makes it simpler and more scalable alternative to thread-based concurrency.

- In what ways is using thread-based concurrency easier than event-based?

Event-based concurrency may not be suitable for all types of applications and the choice between it and thread-based will depend on the requirements and constraints of the system. Thread-based concurrency can sometimes be easier than event-based concurrency especially since it can be a more familiar model for some developers, but it also has better support for CPU-bound tasks and a finer grained control over execution than event-based concurrency.

- What problem does `select()` solve?

Select() lets you know when a new network connection is established. If we have multiple network connections we can't just use recv() because it blocks until some data arrives, so if one of the conections stops earlier than another, we have to call recv() on the conection that we know already has some data ready to receive, this is where select() helps solve the problem, letting us know when a connection has some data ready to read.

- Does a standard event loop use multiple CPU cores? If so, how? If not, what do you have to utilize those additional cores with event-based concurrency?

A standard event loop typically uses a single core, however it is possible to use multiple cores in event-based concurrency, though it does take some of the simplicity away. In order to utilize more than one CPU the event server has to run multiple event handlers in parallel, which can cause the usual syncronization problems, though the usual solutions, locks, can be employed.