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Distributed Systems CSCI 520
Project 1 Scheduling Conflict Resolution

A scheduling conflict in this system is defined as an event that is proposed that overlaps with another event, and the two overlapping events involve at least one of the same process. If there is a conflict, both events will be created initially. If the row of a T matrix at the creating process shows that the scheduling process already knows about an event that will conflict with the new event, a remove event will be created. Both events will be added to the log, but the event will not be added to the calendar because the remove event will immediately be created. This first case will only happen at the creating process.

Each event to be put in the calendar has an event id that is created with the event. This event id starts with a sha256 hash of the current CPU time with the local process id and local clock time concatenated on the end. Because of the process id, and the local clock time concatenated on the end, all event id's are unique. If two events conflict, and a comes before relationship cannot be found, the two event id's are compared. A remove event is created for the smaller event id.

I chose to start the event id's with a sha256 checksum so each event has an equal chance at beating another event in a tie breaker. I concatenated the process id and local clock time to make the event id's unique and handle the unlikely event that the hashes collide.