Homework 0

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Problem 1 Solution:

Fact 1. *A ship should be the last one that schedules to stay in a port that it will remain in.*

Proof. By contradiction, we suppose ship S will remain in port P, beginning on day d, for the rest of the month, and another ship S' has a schedule to stay in port P on day $d + x$, where $0 \leq x \leq (m - d)$. But this will conflict with the requirement (†), therefore S' cannot have a schedule to stay in port P, namely, S is the last ship that schedule to stay in the port P. □

In order to proof that a set of truncations can always be found, we can use contradiction.

Proof. □

- Show a set of truncations can always be found: We can prove this by contradiction. First, we suppose there is a ship S that cannot find any port to remain in.