

Operating Systems Project

Ferry Tour

There is a ferry between two sides of a city with a capacity of 20 cars. The ferry leaves one side with vehicles and takes them to the other side. There, as the vehicles leave the ferry, new vehicles are loaded to the other side and so on.

To use the ferry, the vehicles have to pass through tolls. When they pay the fee, they enter a square to wait for the next ferry. There are two tolls at each side (4 tolls in total).

There are 12 cars, 10 minibuses and 8 trucks in total, which want to go and come back from one side to another.

All these vehicles and the ferry have to choose the side to start randomly.

When ferry is available, only one vehicle can be loaded to the ferry at a time. The vehicles that passed the tolls (one vehicle at a time also) should wait in the square to be loaded. But loading a minibus equals to loading two cars and loading a truck equals to loading three cars (in terms of ferry capacity, not time). When ferry has enough cars, it has to leave the port for the other side.

When ferry reaches the other side, the vehicles on that side should wait until the arriving vehicles leave the ferry. When ferry is empty, it will be loaded in the same way.

The vehicles arriving one side should return after a while. For this reason, ferry will work until all vehicles are at the side where they started.