21. A Study on the Optimization of Berth Planning Problem

해사수송과학과 김 대 상
지도교수 김 시 화

This paper treats the berth planning problem which is encountered at public container terminals. The main issue of the berth planning problem is to decide how to allocate the berths to scheduled calling containers of which the ETA's are given beforehand.

The author, at first, made a literature survey concerning the subject and summarized it to make clear the scope of the problem. Then, the optimization models for tackling the berth planning problem are proposed in the formulation of set problems. Some heuristic algorithms for generating the decision variables of the models are also devised by using the concept of the ship's waiting time and the modified berth occupancy rate.

Computational experiments based on the data arisings from the real public container terminal(BCTOC) are also carried out and the results are reported to show that the proposed optimization models and the heuristic for generating the decision variables are applicable and useful for the berth planning problem at public container terminals.