**Operating Systems Project**

**TOPIC:-**

Modified Banker’s Algorithm Application

in Ocean Clean Up Management

**TEAM MEMBERS:**

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**ABSTRACT :-**

The banker’s algorithm is a resource allocation and deadlock avoidance algorithm that tests for safety by simulating the allocation for predetermined maximum possible amounts of all resources, then makes an “s-state” check to test for possible activities, before deciding whether allocation should be allowed to continue.

Marine pollution occurs when harmful effects result from the entry into the ocean of chemicals, particles , industrial , agricultural, and residential waste , noise, or the spread of invasive organisms. Eighty percent of marine pollution comes from land. Air pollution is also a contributing factor by carrying off pesticides or dirt into the ocean. Land and air pollution have proven to be harmful to marine life and its habitats.

The main causes of ocean pollution are:

1. Acidification

2. Plastic waste

3. Toxins and metallic waste

4. Eutrophication

Bankers algorithm will be applied to allocate the ocean clean up resources as per the needs. Here the resources are floating screens , skimmers , ocean clean up pipeline etc. Which will be allocated to the different ocean areas depending upon the above mentioned pollution levels .

This will not only make the purification process efficient but will also reduce the overall costs.

Priority will be decided based on the various surveys and tests conducted ; and this will decide the flow of the resources which each region of the ocean will receive.

**MODULES :-**

Bhargav Roy (18BCE0310) :-

Collection of data set.

Sidharth Hemant Nahar (18BCE0318) :-

Looking into various resource allocation algorithms and optimizing them for a better solution.

Nimit Kumar Jain (18BCE0328) :-

Implementation of the code for the algorithm.