CLAIMS

1. A device for allocating ships comprising:

a first data obtaining unit that obtains a shipping route data set indicating a shipping route of a routine transportation service, ship identification data sets that indicate candidate ships available for the routine transportation service, a ship number data set that indicates a number of ships used for the routine transportation service, and a schedule data set that indicates a schedule of assignments of ships for the routine transportation service,

a second data obtaining unit that obtains, from a first database that stores fuel consumption fluctuation data sets each of which indicates a fluctuation of fuel consumption of a ship in association with ship identification, data sets each of which in turn indicates a corresponding ship, fuel consumption fluctuation data sets stored in association with the ship identification data sets obtained by the first data obtaining unit,

a calculating unit that calculates, in connection with each of the candidate ships, fuel consumption required for the ship to traverse the shipping route indicated by the shipping route data set in accordance with a schedule indicated by the schedule data set based on the fuel consumption fluctuation data set of the ship,

a selecting unit that selects, from among the candidate ships, a number of ships equal to or greater than the number indicated by the ship number data set based on the fuel consumptions calculated by the calculating unit, and

an outputting unit that outputs the ship identification data sets of the ships selected by the selecting unit.

2. The device for allocating ships according to claim 1 further comprising:

a third data obtaining unit that obtains, from a second database, a meteorological and hydrographic phenomenon data set indicating meteorological and hydrographic phenomena in relation to the schedule indicated by the schedule data set and in relation to the shipping route indicated by the shipping route data set,

wherein

the first database stores meteorological and hydrographic phenomenon data sets in association with the fuel consumption fluctuation data sets, and

the calculating unit calculates the fuel consumption based on the meteorological and hydrographic phenomenon data sets.

3. The device for allocating ships according to claim 1 or 2, wherein

the first data obtaining unit obtains a plurality of the schedule data sets,

the calculating unit calculates a fuel consumption of each of the candidate ships in connection with each of plural schedules indicated by the plurality of schedule data sets,

the selecting unit selects, in connection with each of the plural schedules, a number of ships equal to or greater than the number indicated by the ship number data set based on the fuel consumptions calculated by the calculating unit, and

the outputting unit outputs, in connection with each of the plural schedules, the ship identification data sets of the ships selected by the selecting unit, and

further comprising:

a display unit that displays, in connection with each of the plural schedules, the ship identification data sets output by the outputting unit.

4. A method for allocating ships comprising:

obtaining a shipping route data set indicating a shipping route of a routine transportation service, ship identification data sets that indicate candidate ships available for the routine transportation service, a ship number data set that indicates a number of ships used for the routine transportation service, and a schedule data set that indicates a schedule of assignments of ships for the routine transportation service,

obtaining, from a first database that stores fuel consumption fluctuation data sets each of which indicates a fluctuation of fuel consumption of a ship in association with ship identification data sets, each of which in turn indicates a corresponding ship, fuel consumption fluctuation data sets stored in association with the obtained ship identification data sets,

calculating, in connection with each of the candidate ships, fuel consumption required for the ship to traverse the shipping route indicated by the shipping route data set in accordance with a schedule indicated by the schedule data set based on the fuel consumption

fluctuation data set of the ship,

selecting, from among the candidate ships, a number of ships equal to or greater than the number indicated by the ship number data set based on the calculated fuel consumptions, and

outputting the ship identification data sets of the selected ships.

5. A program that causes a computer to execute:

obtaining a shipping route data set indicating a shipping route of a routine transportation service, ship identification data sets that indicate candidate ships available for the routine transportation service, a ship number data set that indicates a number of ships used for the routine transportation service, and a schedule data set that indicates a schedule of assignments of ships for the routine transportation service,

obtaining, from a first database that stores fuel consumption fluctuation data sets each of which indicates a fluctuation of fuel consumption of a ship in association with ship identification data sets, each of which in turn indicates a corresponding ship, fuel consumption fluctuation data sets stored in association with the obtained ship identification data sets,

calculating, in connection with each of the candidate ships, fuel consumption required for the ship to traverse the shipping route indicated by the shipping route data set in accordance with a schedule indicated by the schedule data set based on the fuel consumption fluctuation data set of the ship,

selecting, from among the candidate ships, a number of ships equal to or greater than the number indicated by the ship number data set based on the calculated fuel consumptions, and

outputting the ship identification data sets of the selected ships.

6. A computer readable recording medium storing the program according to claim 5.

CLAIMS

[Claim 1] A device for allocating ships comprising:

a first data obtaining unit that obtains a shipping route data set indicating a shipping route of a routine transportation service, ship identification data sets that indicate candidate ships available for the routine transportation service, a ship number data set that indicates a number of ships used for the routine transportation service, and a schedule data set that indicates a schedule of assignments of ships for the routine transportation service,

a second data obtaining unit that obtains, from a first database that stores fuel consumption fluctuation data sets each of which indicates a fluctuation of fuel consumption of a ship in association with ship identification, data sets each of which in turn indicates a corresponding ship, fuel consumption fluctuation data sets stored in association with the ship identification data sets obtained by the first data obtaining unit,

a calculating unit that calculates, in connection with each of the candidate ships, fuel consumption required for the ship to traverse the shipping route indicated by the shipping route data set in accordance with a schedule indicated by the schedule data set based on the fuel consumption fluctuation data set of the ship,

a selecting unit that selects, from among the candidate ships, a number of ships equal to or greater than the number indicated by the ship number data set based on the fuel consumptions calculated by the calculating unit, and

an outputting unit that outputs the ship identification data sets of the ships selected by the selecting unit.

[Claim 2] The device for allocating ships according to claim 1 further comprising:

a third data obtaining unit that obtains, from a second database, a meteorological and hydrographic phenomenon data set indicating meteorological and hydrographic phenomena in relation to the schedule indicated by the schedule data set and in relation to the shipping route indicated by the shipping route data set,

wherein

the first database stores meteorological and hydrographic phenomenon data sets in association with the fuel consumption fluctuation data sets, and

the calculating unit calculates the fuel consumption based on the

meteorological and hydrographic phenomenon data sets.

[Claim 3] The device for allocating ships according to claim 1 or 2, wherein

the first data obtaining unit obtains a plurality of the schedule data sets,

the calculating unit calculates a fuel consumption of each of the candidate ships in connection with each of plural schedules indicated by the plurality of schedule data sets,

the selecting unit selects, in connection with each of the plural schedules, a number of ships equal to or greater than the number indicated by the ship number data set based on the fuel consumptions calculated by the calculating unit, and

the outputting unit outputs, in connection with each of the plural schedules, the ship identification data sets of the ships selected by the selecting unit, and

further comprising:

a display unit that displays, in connection with each of the plural schedules, the ship identification data sets output by the outputting unit.

[Claim 4] A method for allocating ships comprising:

obtaining a shipping route data set indicating a shipping route of a routine transportation service, ship identification data sets that indicate candidate ships available for the routine transportation service, a ship number data set that indicates a number of ships used for the routine transportation service, and a schedule data set that indicates a schedule of assignments of ships for the routine transportation service,

obtaining, from a first database that stores fuel consumption fluctuation data sets each of which indicates a fluctuation of fuel consumption of a ship in association with ship identification data sets, each of which in turn indicates a corresponding ship, fuel consumption fluctuation data sets stored in association with the obtained ship identification data sets,

calculating, in connection with each of the candidate ships, fuel consumption required for the ship to traverse the shipping route indicated by the shipping route data set in accordance with a schedule indicated by the schedule data set based on the fuel consumption fluctuation data set of the ship,

selecting, from among the candidate ships, a number of ships equal to or greater than the number indicated by the ship number data

set based on the calculated fuel consumptions, and

outputting the ship identification data sets of the selected ships.

[Claim 5] A program that causes a computer to execute:

obtaining a shipping route data set indicating a shipping route of a routine transportation service, ship identification data sets that indicate candidate ships available for the routine transportation service, a ship number data set that indicates a number of ships used for the routine transportation service, and a schedule data set that indicates a schedule of assignments of ships for the routine transportation service,

obtaining, from a first database that stores fuel consumption fluctuation data sets each of which indicates a fluctuation of fuel consumption of a ship in association with ship identification data sets, each of which in turn indicates a corresponding ship, fuel consumption fluctuation data sets stored in association with the obtained ship identification data sets,

calculating, in connection with each of the candidate ships, fuel consumption required for the ship to traverse the shipping route indicated by the shipping route data set in accordance with a schedule indicated by the schedule data set based on the fuel consumption fluctuation data set of the ship,

selecting, from among the candidate ships, a number of ships equal to or greater than the number indicated by the ship number data set based on the calculated fuel consumptions, and

outputting the ship identification data sets of the selected ships.

[Claim 6] A computer readable recording medium storing the program according to claim 5.