CLAIMS

[Claim 1]

An evaluation device, comprising: a processor for executing a program; and a memory device for storing the program,

wherein the memory device stores base information which holds positional information of a plurality of distribution bases, delivery destination information which holds positional information of delivery destinations, demand information which holds a size and a quantity of cargo delivered from the base to the delivery destinations, a route service tariff which holds cost determined by a size of the cargo and a delivery distance of the cargo from the base to the delivery destination in a route service in which the cargo of a plurality of shippers is mixed on one delivery vehicle, and a route delivery tariff which holds cost determined by loading capacity of the delivery vehicle and a delivery distance of the cargo from each base to the delivery destination in a route delivery in which one delivery vehicle loaded with a cargo of one shipper circulates the plurality of delivery destinations from each base so as to deliver the cargo, and,

the processor executes

creation processing which creates, for each base, delivery course information on a route service including a

delivery course along which the delivery vehicle delivers a quantity of the cargo delivered to the delivery destination from the base to the delivery destination in the route service and delivery cost of the delivery course, based on the base information, the delivery destination information, the demand information, and the route service tariff, and creates, for each base, delivery course information on a route delivery including a delivery course along which the delivery vehicle delivers the quantity of the cargo delivered to the delivery destination from the base to the delivery destination in the route delivery and delivery cost of the delivery course, based on the base information, the delivery destination information, the demand information, and the route delivery tariff,

determination processing which determines a delivery schedule by extracting the delivery course information from each of the bases configuring a combination of the bases for each combination of a plurality of the bases from a set of the delivery course information created by the creation processing based on the delivery cost included in the delivery course information, and

output processing which outputs the delivery schedule of each combination of the plurality of bases determined by the determination processing.

[Claim 2]

The evaluation device according to claim 1, wherein

the processor

executes selection processing which selects a combination of specific bases from a combination of the plurality of bases based on a total value of the delivery costs included in each delivery schedule determined by the determination processing, and

in the output processing, the processor outputs an evaluation result which includes a combination of specific bases selected by the selection processing, a specific delivery schedule for the combination of the specific bases, and a total value of the delivery costs for the specific delivery schedule.

[Claim 3]

The evaluation device according to claim 2, wherein

in the selection processing, the processor selects the combination of the specific bases in which the total value of the delivery costs are minimal from the combination of the plurality of bases.

[Claim 4]

The evaluation device according to claim 1, wherein

the memory device has area information which defines an area, and the area information includes area designation information which designates the area, a region division method which defines a method for dividing the area into a

plurality of regions, and a region division level which defines a division detail level by the region division method, and

the processor

executes creation processing which divides a specific area into a plurality of specific regions using the area information and holds specific positional information within the specific regions as positional information of the base to create the base information and store the created base information in the memory device.

[Claim 5]

The evaluation device according to claim 2, wherein

in the output processing, the processor controls a display screen to display the map information which includes the specific base, the specific delivery destination, and information associated with the specific base and the specific delivery destination.

[Claim 6]

The evaluation device according to claim 2, wherein

the memory device stores at least one of a constrain condition relating to shipping of the cargo from the base and a constraint condition relating to delivery of the cargo at the delivery destination, and

the processor

executes the creation processing and the determination

processing so as to observe the at least one constraint condition.

[Claim 7]

The evaluation device according to claim 6, wherein

the at least one constraint condition includes a constraint condition relating to a time, and

in the output processing, the processor controls a display screen to display a time chart indicating a delivery order of the specific base and the specific delivery destination in time series.

[Claim 8]

The evaluation device according to claim 1, wherein

in the creation processing, the processor creates, for each base, the delivery course information in which the route service and the route delivery are mixed.

[Claim 9]

The evaluation device according to claim 1, wherein

the memory device stores distribution warehouse property information which holds positional information of a distribution warehouse, a storage cost unit price of the cargo, and a shipping cost unit price of the cargo,

the processor

executes calculation processing of calculating a storage cost and a shipping cost at the base included in the delivery schedule based on the quantity of the cargo in the

delivery schedule when there is a distribution warehouse matching positional information of the base included in the distribution schedule and adding the calculated costs to a total value of the delivery costs, and

in the output processing, the processor outputs a calculation result by the calculation processing.

[Claim 10]

The evaluation device according to claim 1, wherein

the processor

executes calculation processing of multiplying a first weighting factor by each of the first total values of the delivery costs included in a delivery schedule of each combination of the plurality of bases obtained by executing the creation processing and the determination processing using first demand information, multiplying a second weighting factor by each of the second total values of the delivery costs included in a delivery schedule of each combination of the plurality of bases obtained by executing the creation processing and the determination processing using second demand information, and adding a value obtained by multiplying the first weighting factor by the first total value and a value obtained by multiplying the second weighting factor by the second total value for each combination of the plurality of bases, and

in the output processing, the processor outputs a

calculation result by the calculation processing.

[Claim 11]

An evaluation method by an evaluation device including a processor for executing a program and a memory device for storing the program,

wherein the memory device stores base information which holds positional information of a plurality of distribution bases, delivery destination information which holds positional information of delivery destinations, demand information which holds a size and a quantity of cargo delivered from the base to the delivery destinations, a route service tariff which holds cost determined by a size of the cargo and a delivery distance of the cargo from the base to the delivery destination in a route service in which the cargo of a plurality of shippers is mixed on one delivery vehicle, and a route delivery tariff which holds cost determined by loading capacity of the delivery vehicle and a delivery distance of the cargo from each base to the delivery destination in a route delivery in which one delivery vehicle loaded with a cargo of one shipper circulates the plurality of delivery destinations from each base so as to deliver the cargo, and,

the processor executes

creation processing which creates, for each base, delivery course information on a route service including a

delivery course along which the delivery vehicle delivers a quantity of the cargo delivered to the delivery destination from the base to the delivery destination in the route service and delivery cost of the delivery course, based on the base information, the delivery destination information, the demand information, and the route service tariff, and creates, for each base, delivery course information on a route delivery including a delivery course along which the delivery vehicle delivers the quantity of the cargo delivered to the delivery destination from the base to the delivery destination in the route delivery and delivery cost of the delivery course, based on the base information, the delivery destination information, the demand information, and the route delivery tariff,

determination processing which determines a delivery schedule by extracting the delivery course information from each of the bases configuring a combination of the bases for each combination of a plurality of the bases from a set of the delivery course information created by the creation processing based on the delivery cost included in the delivery course information, and

output processing which outputs the delivery schedule of each combination of the plurality of bases determined by the determination processing.

[Claim 12]

An evaluation program executed by a processor accessible to a memory device,

wherein the memory device stores base information which holds positional information of a plurality of distribution bases, delivery destination information which holds positional information of delivery destinations, demand information which holds a size and a quantity of cargo delivered from the base to the delivery destinations, a route service tariff which holds cost determined by a size of the cargo and a delivery distance of the cargo from the base to the delivery destination in a route service in which the cargo of a plurality of shippers is mixed on one delivery vehicle, and a route delivery tariff which holds cost determined by loading capacity of the delivery vehicle and a delivery distance of the cargo from each base to the delivery destination in a route delivery in which one delivery vehicle loaded with a cargo of one shipper circulates the plurality of delivery destinations from each base so as to deliver the cargo, and,

the processor executes

creation processing which creates, for each base, delivery course information on a route service including a delivery course along which the delivery vehicle delivers a quantity of the cargo delivered to the delivery destination from the base to the delivery destination in the route

service and delivery cost of the delivery course, based on the base information, the delivery destination information, the demand information, and the route service tariff, and creates, for each base, delivery course information on a route delivery including a delivery course along which the delivery vehicle delivers the quantity of the cargo delivered to the delivery destination from the base to the delivery destination in the route delivery and delivery cost of the delivery course, based on the base information, the delivery destination information, the demand information, and the route delivery tariff,

determination processing which determines a delivery schedule by extracting the delivery course information from each of the bases configuring a combination of the bases for each combination of a plurality of the bases from a set of the delivery course information created by the creation processing based on the delivery cost included in the delivery course information, and

output processing which outputs the delivery schedule of each combination of the plurality of bases determined by the determination processing.