PROG4-Abstract Class--Watercarrier

Abstract class –WaterCarrier

Devi and her family is going to relocate to London and they were looking for a good Shipping Company that would make their relocation hassle-free and reliable. Devi's friend suggested her about the Thushith Group of shipping in their locality as the Company is a reputed firm specialised especially in Ocean freight Transport.

The company had a variety of water carriers namely BulkShips, Container ships owned by company, Ferries(small ships) and other carriers are owned by Agents, for their Shipments.Devi placed her shipment order in the company but was interested to know the details of different ships in each category of the water carriers and requested the shipping officer for the same. The officer needs your help to Write a block of code in fetching the details of the ships based on the category of water carriers.

The program will help you familiarize the need of

Abstract classes. Abstract class is a class that is declared abstract –it may or may not include abstract methods. Abstract classes cannot be instantiated, but they can be subclassed.

[Note:Strictly adhere to the object oriented specifications given as a part of the problem statement. Use the same class names and member vari"create separate classes in separate files.]

Create an abstract class named **Water carrier** with the following protected attributes/member variables

- String CarrierName
- String CarrierCode
- String CarrierType
- String iatacode
- String CarrierAddress

1.Include appropriate getters and setters.

2.Include default constructor and 5- argument constructor with the following order **CarrierName, Carrier Code, ,iatacode, carrier address, Carrier type.**

3.Include a abstract method **displayshipdetails()**

4.Include the following methods:

Method name	Description
Static water carrier create ship (String CarrierName ,String CarrierCode, ,String iatacode, String Carrier Address, string Carrier Type,integer capacity)	To create and return the water carrier objects

Static string return owner (water carrier,watercarrier)	To return the owner of the ship (either Company or Agent)

Create a class named **container ships**. The class contain ships is a derived class of **WaterCarrier**.Include the following private attributes/member variables.

- Integer no of containers

1. Include appropriate getters and setters.
2. Include default constructor and 6-argument constructor,with the following order **Carriername,CarrierCode,IataCode,CarrierAddress,CarrierType,no of containers.**

Create a class named BulkShips. The class BulkShips is a derived class of WaterCarrier.Include the following private attributes/member variables.

- Integer no of cargoes

1. Include appropriate getters and setters
2. Include default constructor and 6-argument constructor,with the following order **Carriername,CarrierCode,IataCode,CarrierAddress,CarrierType,no of containers.**

Create a class named Ferries. The class Ferries is a derived class of WaterCarrier.Include the following private attributes/member variables.

- Integer maxLoad

1.Include appropriate getters and setters.

2.Include default constructor and 6-argument constructor,with the following order **Carriername,CarrierCode,IataCode,CarrierAddress,CarrierType,no of containers.**

3. Below methods are overrided in all child classes.

	d name	d description
	ShipDetails()	lay details of the ship

Display details using Use system.out.format **("%-20s%-15s%-15s%-15s%-15s%-25s%s/n","Carrier type","Name",Code","IATAcode','Location","Capacity","OwnedBy")**

Create another class called **Main**.In the method ,create instances of the above classes and test the above classes.

Input and output Format:

The ship details are entered as comma separated values with following order

CarrierName,CarrierCode,IataCode,carrierAddress,CarrierType,Capacity.

Refer sample input and output for formatting specifications.

All text in bold corresponds to input and the rest corresponds to output.

Sample input and output :

Enter the number of carriers:

3

Enter the carrier 1 details :

Titanic,CR20,IATA001,California,Bulkship,10

Enter the carrier 2 details :

Arcadia,CR21,IATA002,Mexico,Containership,10

Enter the carrier 3 details :

Lexcorp**,CR22,IATA003,Bermuda,Ferries,25**

Ship details are

Carrier type	Name	code	IATA Code	Location	Capacity	Owned by
Bulkship	Titanic	CR20	IATA001	California	10 cargoes	Company
Container ship	Arcadia	CR21	IATA002	Mexico	10 containers	Company
Ferries	Lexcorp	CR22	IATA003	Bermuda	25 Kilograms	Agent