

### Calculating revenue and tax

A Shipment Entity can be handled by customer himself, Agent, Carriers or the company. When handling a Shipment Entity the agent and company has to comply to certain formalities like total revenue earned and tax filling amount, whereas a carrier should comply to rules like printing the minimum number of ports and list the ports. Write a program to get the shipment entity details as input, create Menus separately for company ,Agent and carrier, and display the informations respective to each of them.

Below are the problem constraints:

1. For a company, tax payable is 8%of profit and for an Agent tax payable is 5% of commission.
2. Company Id should start with String "CO".
3. Agent Id should start with the String "AG".
4. Carrier Id should start with the String "CA".

The problem has three class Company, Agent and Carrier. Every class has to implement the MenuDrivenEntity Interface. Company and Agent should Implement Taxpayer Interface. Carrier should implement Carrier interface

Create an Interface called **MenuDriven Entity** with the following methods

	<b>d Name</b>	<b>d Description</b>
	void display Menu()	ethod is used to display the menu with choice for each entity.
	void choice Action(int choice)	ethod is used to check for the choice and call the particular action for the choice and display the details.

Create an Interface called **Tax payer** with the following methods

	<b>d Name</b>	<b>d Description</b>
	Double Calculate Revenue()	ethod is used to calculate the revenue and return the value. Revenue is the sum of expense and profit (in the case of company). Revenue is the sum of expense and Commision (in the case of Agent).
	Double calculate Tax	ethod is used to calculate the tax and return the value.

		ent tax is 5% of commission and for company tax is 8% of profit.
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Create an Interface called **ICarrier** with the following methods

	<b>d Name</b>	<b>d Description</b>
	void list of ports ()	ethod is used to display all the ports
	Void number of ports()	ethod is used to display the number of ports in the list

Create a class called **Carrier** with the following private member variables

- String id
- Double expense
- String mode of Transport
- String[] listofPorts

Create a single argument constructor with attribute(String value).

The value consists of all attribute values in csv format. Split the string value and store the attribute values.

Implement the methods in MenuDrivenentity and ICarrier interface.

Write appropriate getters & setters.

Create a class called **Agent** with the following private member variables

- String id
- Double expense
- Double commission

Create a single argument constructor with attribute(string value).

The value consists of all attribute values in csv format. Split the string value and store the attribute values.

Implement the methods in MenuDrivenentity and Tax payer interface.

Write appropriate getters & setters.

Create a class called Company **with the following private member variables**

- String id
- Double expense
- Double profit

Create a single argument constructor with attribute **value** of type String.

The value consists of all attribute values in csv format. Split the string value and store the attribute values.

Implement the methods in MenuDrivenEntity and ICarrier interface.

Write appropriate getters & setters.

**Example:**

Attribute-id

Method-getId(),setId(String id)

Create a driver class named **Main** and in the main method create instances of the above classes and test them .

**Input and output format:**

Refer Sample Input and Output for formatting specifications.

All double values are displayed correct to 1 decimal place.

**[Note: Strictly adhere the object oriented specifications given as part of the problem statement. Use the same class names and member variable names. ]**

**[All text in bold are input and the remaining are output]**

**Sample Input and Output 1:**

Enter the number of shipmeny entity:

**3**

Enter the entity 1 details:

**CO001, 500000, 100000**

Enter the entity 2 details:

**AG001,25000,10000**

Enter the entity 3 details:

**CA001,60000,Airway,Hongkong,Kolkata,Mmbai,Tuticorin,LosAngeles**

**Enter the entity id:**

**CA001**

Carrier menu

1 .List the ports

2. calculate number of ports

1

List of ports:

HongKong

Kolkata

Mumbai

Tuticorn

LosAngeles

**Sample Input and Output 2:**

Enter the number of shipmeny entity:

**2**

Enter the entity 1 details:

**CO01, 60000, 1000**

Enter the entity 2 details:

**CA001,60000,Airway,Hongkong,Kolkata,Mmbai,Tuticorin,LosAngeles**

**Enter the entity id:**

**CA001**

Carrier menu

1 .List the ports

2. calculate number of ports

**2**

Number of ports :5

**Sample Input and Output 3:**

Enter the number of shipmeny entity:

**2**

Enter the entity 1 details:

**CO001, 80000, 22000**

Enter the entity 2 details:

**AG002, 20000, 5000**

**Enter the entity id:**

**AG002**

Agent menu

1 .Calculate agent revenue

2. calculate agent tax

**1**

Revenue of AG002 is 25000.0

**Sample Input and Output 4:**

Enter the number of shipmeny entity:

**2**

Enter the entity 1 details:

**AG005, 65000, 32000**

Enter the entity 2 details:

**CO010, 88000, 61000**

**Enter the entity id:**

**CO010**

Company menu

1 .Calculate Company revenue

2. calculate company tax

**2**

Tax for CO010 is 4880.0

