BonBon Publishing Company

Grade settings: Maximum grade: 100
Disable external file upload, paste and drop external content: Yes
Run: Yes **Evaluate**: Yes
Automatic grade: Yes **Maximum execution time**: 16 s

Bon-Bon Publishing

Bon-Bon Publishing is an advertising company that does designing and posting of advertisements for its clients on their respective websites. Due to the festival season, many new companies have approached them for creating advertisements and requested for quotations.

So, Bon Bon plans to automate the business process for their convenience. Help them by creating a Java application to cater to their client's requirements.

To start with, the company needs to automate the calculation of the advertisement charges.

Requirements 1: Calculation of Advertisement Charges

The application needs to calculate the advertisement charges by getting the information like advertisement Id, priority, the number of days, client name, advertisement type, and data specific to the advertisement type and the base cost from the user.

Component Specification: Advertisement Class (Parent Class)

Component Name	Type(Class)	Attributes	Methods	Responsibilities
Calculation of Advertisement Charges	Advertisement	int advertisementId String priority int noOfDays String clientName	Include a public getter and setter method for all the attributes. Include a public 4 argument constructor in the given order - advertisementId, priority, noOfDays, clientName	
Calculation of Advertisement Charges	Advertisement		public float calculateAdvertisementCharge(float baseCost)	This method should be an abstract method to calculate the advertisement charges based on the base cost of the advertisement and

				return the same.

Note:

- The attributes of Advertisement class should be protected.

Component Specification: VideoAdvertisement class (Needs to be a child of Advertisement class)

Component Name	Type(Class)	Attributes	Methods	Responsibilities
Calculation of Advertisement Charges	VideoAdvertisement	int duration	Include a public getter and setter method for the attribute. Include a public 5 argument constructor in the given order - advertisementId, priority, noOfDays, clientName, duration	

Component Specification: ImageAdvertisement Class (Needs to be a child of Advertisement class)

Component Name	Type(Class)	Attributes	Methods	Responsibilities
Calculation of Advertisement Charges	ImageAdvertisement	int inches	Include a public getter and setter method for the attribute. Include a public 5 argument constructor in the given order - advertisementId, priority, noOfDays, clientName, inches	

Component Specification: TextAdvertisement Class (Needs to be a child of Advertisement class)

Component Name	Type(Class)	Attributes	Methods	Responsibilities
Calculation of Advertisement Charges	TextAdvertisement	int noOfCharacters	Include a public getter and setter method for the attribute. Include a public 5 argument constructor in the given order - advertisementId, priority, noOfDays, clientName, noOfCharacters	

Note:

- The classes VideoAdvertisement, ImageAdvertisement and TextAdvertisement should be concrete classes with private attributes, public methods and should override the calculateAdvertisementCharge method.

Advertisement Charge needs to be calculated as shown below:

Advertisement Charge = baseAdvertisementCost + Booster Cost + Service Cost

The baseAdvertisementCost is calculated based on the advertisement type as follows,

- For VideoAdvertisement :

    baseAdvertisementCost = baseCost * duration * noOfDays

- For ImageAdvertisement :

    baseAdvertisementCost = baseCost * inches * noOfDays

- For TextAdvertisement :

    baseAdvertisementCost = baseCost * noOfCharacters * noOfDays

The booster cost and service cost is calculated based on the following criteria.

Priority	Booster Cost	Service Cost
high	10% of baseAdvertisementCost	1000
medium	7% of baseAdvertisementCost	700
low	Nil	200

Example:

Consider an advertisement type as video, priority as high, number of days as 5, duration as 10 minutes and base cost as 100, then the calculation of advertisement charge will be as follows,

baseAdvertisementCost = 100 * 10 * 5 = 5000

Booster Cost = (5000 * 10) / 100 = 500

Service Cost = 1000

Advertisement Charge = 5000 + 500 + 1000 = 6500.0

Create a **public class Main** with the main method to test the application.

Note:

- In the Sample Input / Output provided, the highlighted text in bold corresponds to the input given by the user and the rest of the text represents the output.
- Ensure to follow object oriented specifications provided in the question.
- Ensure to provide the names for classes, attributes and methods as specified in the question.
- Adhere to the code template, if provided.

Sample Input 1:

Enter the advertisement id

101

Enter the priority (high / medium / low)

high
Enter the no of days advertisement is published

10
Enter the client name

EZ   **Company**
Enter the type of Advertisement (video/image/text)

video
Enter the duration in minutes

3
Enter the base cost

100

Sample Output 1:

The Advertisement cost is 4300.0

Sample Input 2:

Enter the advertisement id

247
Enter the priority (high / medium / low)

medium

Enter the no of days advertisement is published

15
Enter the client name

Zee   **Technologies**
Enter the type of Advertisement (video/image/text)

image
Enter the number of inches

30
Enter the base cost

5

Sample Output 2:

The Advertisement cost is 3107.5

Sample Input 3:

Enter the advertisement id

355
Enter the priority (high / medium / low)

low
Enter the no of days advertisement is published

10
Enter the client name

Airvoice   **communications**
Enter the type of Advertisement (video/image/text)

text
Enter the number of characters

100
Enter the base cost

2

Sample Output 3:

The Advertisement cost is 2200.0