

Ration Card Details(---RETIRED---)

Grade settings: Maximum grade: 100

Disable external file upload, paste and drop external content: Yes

Based on: [Ration Card Details\(---RETIRED---\)](#)

Run: Yes **Evaluate:** Yes

Automatic grade: Yes

Tamil Nadu Government wanted to give a percentage of discount to the customers based on the ration card colour. They have approached you to create software that would calculate the amount to be paid by the customers based on the card colour. You are being the software developer, create a Java program based on the requirement.

Component Specification: RationCard

Type (Class)	Attributes	Methods
RationCard	String rationCardId String holderName String cardColour double quantity double price	Necessary getters, setters, and a five-argument constructor is provided as a part of the code skeleton.

Functional Requirement 1: Extract the details of the Ration card and create an object for RationCard class.

Type (Class)	Methods	Responsibilities
UserInterface	public static RationCard extractDetails (String cardDetails)	This method accepts cardDetails separated by the colon as an argument and should extract the properties of the RationCard from the argument by

		parsing the cardDetails. Set these values to the RationCard object and return this object.
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Functional Requirement 2: Calculate the amount to be paid by the customer for the goods purchased.

Type (Class)	Methods	Responsibilities
RationCard	public double calculateBillAmount()	<p>This method is used to calculate the amount to be paid by the customer after deducting the discount.</p> <p>If the cardColour is Pink, the discount percentage is 20%.</p> <p>If the cardColour is Blue, the discount percentage is 9%.</p> <p>If the cardColour is Yellow, the discount percentage is 15%.</p> <p>Condition:</p> <ul style="list-style-type: none"> • <i>cardColour</i> is case-insensitive. • If the <i>cardColour</i> doesn't match any of the above-mentioned cardColour, the method should return -1. • If the <i>price</i> is less than or equal to zero, the method should return -1. • If the <i>quantity</i> is less than or equal to zero, the method should return -1.

Formula to calculate the amount to be paid:

Amount to be paid=quantity*(price-(price*Discount%)/100)

For Example:

If the quantity = 10.0, cardColour = Pink, and price = 12.0

Amount to be paid = $10.0 * (12.0 - (12.0 * 20) / 100) = 96.0$

The main method in the UserInterface class is excluded from the evaluation. You are free to write your own code in the main method to invoke the business methods to check its correctness.

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 the 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 / Output 1:

Enter Ration Card Details

ASHG298:Lil:Pink:15:60

Ration Card Id : ASHG298

Holder Name : Lil

Card Colour : Pink

Quantity : 15.0

Price : 60.0

Amount to be paid by the Customer 720.00

Sample Input / Output 2:

Enter Ration Card Details

AHSGJ2871:Harry:Orange:9:80

Invalid Ration card details

Sample Input / Output 3:

Enter Ration Card Details

AHSGJ2871:Harry:Yellow:-9:80

Invalid Ration card details

Sample Input / Output 4:

Enter Ration Card Details

AHSGJ2871:Harry:Yellow:9:-75

Invalid Ration card details

```
1 public class RationCard {
2
3
4     private String rationCardId;
5     private String holderName;
6     private String cardColour;
7     private double quantity;
8     private double price;
9
10    public RationCard() {}
11
12    public RationCard(String rationCardId, String holderName, String cardColour, double quantity, double price) {
13        super();
14        this.rationCardId = rationCardId;
15        this.holderName = holderName;
16        this.cardColour = cardColour;
17        this.quantity = quantity;
18        this.price = price;
19    }
20
21    public String getRationCardId() {
22        return rationCardId;
23    }
24
25    public void setRationCardId(String rationCardId) {
26        this.rationCardId = rationCardId;
27    }
28
29    public String getHolderName() {
30        return holderName;
31    }
32
33    public void setHolderName(String holderName) {
34        this.holderName = holderName;
35    }
36
37    public String getCardColour() {
```

Qualifier Assessment Ration Card

https://cognizant.tekstac.com/mod/vpl/forms/edit.php?id=104344&userid=137159#

File List Save All Compile & Run Evaluate Reset Restore Description

File list

RationCard

src

RationCard.java

UserInterface.java

```
32  
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34  
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```

```
public void setHolderName(String holderName) {  
    this.holderName = holderName;  
}  
  
public String getCardColour() {  
    return cardColour;  
}  
  
public void setCardColour(String cardColour) {  
    this.cardColour = cardColour;  
}  
  
public double getQuantity() {  
    return quantity;  
}  
  
public void setQuantity(double quantity) {  
    this.quantity = quantity;  
}  
  
public double getPrice() {  
    return price;  
}  
  
public void setPrice(double price) {  
    this.price = price;  
}  
  
public double calculateBillAmount() {  
    //Fill the code  
    return 0;  
}
```

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16
```

```
import java.util.Scanner;  
  
public class UserInterface {  
  
    public static RationCard extractDetails(String cardDetails){  
        //Fill the code  
        return null;  
    }  
  
    public static void main(String[] args) {  
        Scanner scanner = new Scanner(System.in);  
        //Fill the code  
    }  
}
```