Walmart Shopping

**Grade settings**: Maximum grade: 100  
**Disable external file upload, paste and drop external content**: Yes  
**Based on**: [Walmart Shopping](https://cognizant.tekstac.com/mod/vpl/view.php?id=99214)  
**Run**: Yes **Evaluate**: Yes  
**Automatic grade**: Yes

Walmart is one of the most famous online shopping companies. They have a few traditional stores. They have planned to automate the bill generation based on the product type. You, being their software consultant, have been approached to develop software to implement the functionality to generate the bill.

**Component Specification: WalmartBillInfo**

|  |  |  |
| --- | --- | --- |
| **Type (Class)** | **Attributes** | **Methods** |
| **WalmartBillInfo** | String name  long barcode  String productType  String productName  double productCost  int quantity  String membershipCard | Necessary getters, setters, and a seven argument constructor are provided as part of the code skeleton. |

**Functional Requirement 1: Extract the details and create an object of the WalmartBillInfo class.**

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| --- | --- | --- |
| **Type (Class)** | **Methods** | **Responsibilities** |
| **UserInterface** | public static **WalmartBillInfo**extractDetails(String details) | This method accepts details separated by the colon as an argument and extracts the properties of the WalmartBillInfo  from the argument by parsing the details. Set these values to the WalmartBillInfo object and return this object. |

**Functional Requirement 2 :** Calculate the bill to be paid by the customer.

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| --- | --- | --- | --- |
| **Component Name** | **Type (Class)** | **Methods** | **Responsibilities** |
| Calculate the total bill | **WalmartBillInfo** | public double **calculateTotalBill**( ) | This method is used to calculate the bill amount to be paid by the customer.  ***Condition***:   * *productType is case-insensitive.* * *membershipCard is case-insensitive.* * *The productType must be either of the type [ElectricalItems, Grocery, Garments], else return -1.* * *The membershipCard must be either [yes, no], else return -1.* * *The quantity must be greater than zero, else return -1.* |

**Formula to calculate the bill amount in the WalmartBillInfo class:**

**Cost = productCost \* quantity**

**Bill Amount = ( Cost \* Tax ) + Cost**

|  |  |
| --- | --- |
| **productType** | **Tax** |
| **ElectricalItems** | 0.5 |
| **Grocery** | 0.3 |
| **[Garments](https://cognizant.tekstac.com/mod/vpl/view.php?id=113071)** | 0.6 |

If **membershipCard**is "**yes**," a 2% discount is applied to the bill amount.

**Discounted Bill Amount = Bill Amount - ( Bill Amount \* 0.2 )**

If **membershipCard**is "**no**," then no discounts are given. 

**Example**

**productCost = 2000.0**

**quantity = 1**

**Cost = productCost \* quantity**

**Cost = 2000.0**

**Bill amount = ( Cost \* Tax of ElectricalItems ) + Cost of wire**

**Bill amount = (2000 \* 0.5) + Cost = 1000+ 2000 = $3000.0**

**membershipCard = Yes**

**Discounted Bill Amount = Bill Amount - ( Bill Amount \* 0.2 )**

**Discounted Bill Amount = 3000 - ( 3000 \* 0.2 ) =  3000 - 600 = $2400.0**

**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 the Shopping Details

**John:99079909890:ElectricalItems:Wire:2000:6:Yes**

Name : John

Barcode : 99079909890

Product Type : ElectricalItems

Product Name : Wire

Product Cost : 2000.0

Quantity : 6

Membership Card : Yes

Bill Amount : $14400.0

**Sample Input / Output 2:**

Enter the Shopping Details

**Jack:19079909891:Grocery:Orange:250:9:NotAvaliable**

Invalid Details

**Explanation:**

In the above input, the membershipCard is "**NotAvailable**", but it should be either "**Yes**" or "**No**". So, the details are invalid.

**Sample Input / Output 3:**

Enter the Shopping Details

**Alfred:19079901891:Perfumes:CKONE:5000:1:Yes**

Invalid Details

**Explanation:**

In the above input, the productType  is "**Perfumes**". The productType must be either of the type [ElectricalItems, Grocery, Garments] . So, the details are invalid.

**Sample Input / Output 4:**

Enter the Shopping Details

**Alfred:19179909891:Garments:Shirt:500:-1:No**

Invalid Details

**Explanation:**

In the above input, the quantity  is "**-1**". The quantity must be greater than zero . So, the details are invalid.