Electricity Bill Generation

**Grade settings**: Maximum grade: 100  
**Disable external file upload, paste and drop external content**: Yes  
**Based on**: [Electricity Bill Generation](https://cognizant.tekstac.com/mod/vpl/view.php?id=99213)  
**Run**: Yes **Evaluate**: Yes  
**Automatic grade**: Yes

EIA is major responsible for the electricity bill generation all over the United States of America. They are traditionally generating the bill. So, they have planned to automate the bill generation. You, being their software consultant, have been approached to develop software to implement the functionality to generate the electricity bill.

**Component Specification: EBConnectionInfo**

|  |  |  |
| --- | --- | --- |
| **Type (Class)** | **Attributes** | **Methods** |
| **EBConnectionInfo** | String name  long connectionIdNumber  int previousReadingValue  int currentReadingValue | Necessary getters, setters, and 4 arguments constructors are provided as part of the code skeleton. |

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

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

**Functional Requirement 2:** **Calculate the Electricity bill based on the previous reading value and the current reading value.**

|  |  |  |
| --- | --- | --- |
| **Type (Class)** | **Methods** | **Responsibilities** |
| **EBConnectionInfo** | public double **calculateTotalBill()** | This method should calculate the total bill based on the previous reading value and current reading value and return the calculated bill amount.  ***Condition:***   * *If the****currentReadingValue****is less than or equal to the****previousReadingValue****return -1. Else return the bill amount.* |

**Note:**The class and methods should be declared as public, and all the attributes should be declared as private.

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

**Reading value = currentReadingValue - previousReadingValue**

**Bill amount = Reading value \* Price**

|  |  |
| --- | --- |
| **Reading value** | **Price** |
| <=200 | 0.3 |
| >200 and <=500 | 0.5 |
| >500 and <=1000 | 0.8 |
| >1000 | 1.0 |

**Example**

**Previous Reading Value = 567123**

**Current Reading Value = 567333**

**Reading value = 567333 - 567123 = 210 (**Since the reading value is > 200 and <=500, the unit price is 0.5)

**Bill amount = 210 \* 0.5 = 105.0 $.**

**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 EB Details

**Robert:98798797781233:567123:567333**

Name : Robert

Connection Id Number : 98798797781233

Previous Reading Value : 567123

Current Reading Value : 567333

Bill Amount : $105.0

**Sample Input/Output 2:**

Enter the EB Details

**James:8988982789798:667677:556767**

Invalid Details

**Sample Input/Output 3:**

Enter the EB Details

**Jack:8988982789798:467677:467677**

Invalid Details