**Assignment Coverage:**

* *Classes and Objects,*
* *Datatypes & Variables,*
* *Looping constructs,*
* *Functions / Methods, Decision Making*
* *Access Modifiers,*
* *Collections*
* *Regex patterns*
* *Constructors, Abstraction*
* *Ado.net*

**Technical Requirements:**

You are required to develop a console application which should have the following functionalities.

**Requirement 1:** WriteC# console program for electricity bill application for the admin and customers.

Menu should be

1. 1 – Customer (Add Customer)
2. 2 – Admin
3. 3 – Exit / Close the App

**Business rules:**

1. Create a menu using a switch case to select the following,
2. If the user enters an invalid menu option, should redirect to the Menu again.

**Requirement 2:**  If the user selects 1, Get the following details Customer Id, Name, Location and Units Consumed and save it to the database and add it to the list.

**Business rules:**

1. All the 4 fields are mandatory
2. Customer Id should be in the format EB followed by 5 digits. (Eg – EB12345)
3. All the fields should only take valid inputs else has to be redirected again

**Requirement 3:**  If the user selects 2, Show all the customer details whose bill amount is not calculated. Ask User to select a customer Id and calculate the bill amount for that customer and update the list save it to the database.

**Business rules:**

1. Validate User Selected option
2. Bill has to be calculated based on below rule (refer example at the end to understand better),

|  |  |
| --- | --- |
| First 100 Units | Free of Cost |
| 101 – 250 units | 5/ unit |
| 251 – 500 units | 10 / unit |
| Above 500 units | 15 / unit |

**Requirement 4:** Database Structure:  **Class Model**

**DatabaseName:** **CustomerDB** **TableName: Customers**

|  |  |  |
| --- | --- | --- |
| **Property Name** | **Data type** | **Nullable** |
| CustomerId | String | No |
| Name | String | No |
| Location | String | No |
| UnitsConsumed | Int | No |
| Bill Amount | Double | Yes |

**Requirement 5:  Exit/Close the App**

**Business rules:**

Select option 3 from the menu, display “Thank you” and exit the application.

**Example on how to calculate:**

|  |
| --- |
| First 100 Units |
| 101 – 250 units |
| 251 – 500 units |
| Above 500 units |

1. 550 units

>500

100\*0 + 150\*5 + 250\*10 +50\*15

--------------------------------------------

2. 251 units

>250 <500

100\*0 + 150\*5 + 1\*10

>100

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