**Scenario**

The Housing Society where you are residing has decided to collect apartment maintenance charges from the tenants. They have approached you to create a software where the admin of the housing society can add tenant details, calculate and store maintenance charge that the tenant has to pay per month and display tenant and maintenance details.  Help the society by creating **ApartmentMaintenanceCalculator** application.

Using **C#** and **Data Annotations Attribute** approach, establish a **one-to-zero or one relationship** between a Tenant and the Apartment where the tenant is residing.

**Functionalities**

-        Admin can add Tenant details.

-        Admin can calculate and store Apartment Maintenance Charge detail that the tenant has to pay per month.

-        Admin can view all tenants Information.

-        Admin can view all maintenance information.

**Component Specification**

1. Create a table called **tblTenantInformation** with the below Columns and with rules ***[The constraints should be implemented]***

|  |  |  |
| --- | --- | --- |
| **Column Name** | **DataType** | **Rules** |
| OccupantName | varchar | This field should not allow null values |
| EmailId | varchar | This field should not allow null values |
| AdhaarNumber | varchar | This field should not allow null values and is Primary key for the table. |
| PhoneNumber | bigint | This field should not allow null values |

2. Create a table class called **tblApartmentInformation** with the below column and with rules

|  |  |  |
| --- | --- | --- |
| **Property Name** | **DataType** | **Rules** |
| FlatNumber | string | This field should not allow null values |
| FloorNumber | integer | This field should not allow null values |
| ApartmentNumber | string | This field should not allow null values and is Primary key for the table. |
| TenantAdhaarNumber | string | This field should not allow null values |
| Tenant | TenantInformation | Reference navigation property of **TenantInformation** type with **TenantAdhaarNumber** as **foreign key.** |
| MonthlyRent | double | This field should not allow null values |
| MonthlyMaintenanceAmount | double | This field should not allow null values; it will be a calculated value whose formula is given below. |

3. Create a class called **MaintenanceCalculation**with the below method:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Method Name** | **Argument** | **Return Type** | **Access Scope** | **Responsibilities** |
| MaintenanceAmountCalculation | double rent | double | public | This method will accept a rent amount and calculate and return monthly maintenance amount based on the formula given below. |

*Formula for Calculating Monthly Maintenance Amount is the following:*

|  |  |
| --- | --- |
| Monthly Rent  up to 5000 | Monthly Maintenance = 5% of Rent |
| Monthly Rent>5000 and up to 10000 | Monthly Maintenance = 8% of Rent |
| Monthly Rent>10000 | Monthly Maintenance = 10% of Rent |

5. Create a class called **ApartmentMaintenanceRepository** with the below methods:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Method Name** | **Argument** | **Return Type** | **Access Specifier** | **Responsibilities** |
| AddTenantInfo | TenantInformation tenantInfo | TenantInformation | public | This method will allow admin to insert Tenant details to the database. |
| AddApartmentMaintenanceInfo | ApartmentInformation apartmentInfo | ApartmentInformation | public | This method will allow admin to insert apartment maintenance details of a tenant. |
| DisplayTenantInfo | No argument | List<TenantInformation> | public | This method will allow admin to view all tenant information. |
| DisplayApartmentMaintenanceInfo | No argument | List<ApartmentInformation> | public | This method will allow admin to view all apartment maintenance details. |

**Note:** Should not use **try-catch** block inside of the any methods

6. In the **Program**class**i**mplement the UI logic inside the **Main** method based on the Sample Input / Output given below.







