**Drink and Delight– Case study**

Team D – Classes Document

* Rohit Kumar
* Ritwik Sinha
* Maski Saijahnavi
* Sowrasree Banerjee
* Pushpraj

Class 1: Suppliers

**Fields:**

|  |  |  |
| --- | --- | --- |
| **#** | **Field** | **Description** |
| 1 | private string \_supplierId | Primary key (unique) value of supplier. |
| 2 | private string \_supplierName | Name of the supplier. |
| 3 | private string \_addressID | AddressID of the supplier. |
| 4 | private string \_supplierMobile | Contact number of the supplier. |
| 5 | private string \_supplierEmail | Email of the supplier. |

**Properties:**

|  |  |  |
| --- | --- | --- |
| **#** | **Property** | **Validations** |
| 1 | public string SupplierID | Unique; not null; Four characters; System-generated (starts with S001, increment by 1) |
| 2 | public string SupplierName | Only alphabet; not null.  Should be less than 30 characters. |
| 3 | public string AddressID | Unique; Not null;; system generated (SUP001, increment by 1)  Should be 6 characters. |
| 4 | public string SupplierMobile | Unique; not null, numeric  Should be of exact 10 digits, shouldn’t start with 0. |
| 5 | public string SupplierEmail | Unique; not null; should contain “@” and “.com”, should not contain space. |

**Methods:**

|  |  |  |
| --- | --- | --- |
| **#** | **Method** | **Description** |
| 1 | public void AddSupplier(Supplier supplier) | Adds a new supplier to the existing list of suppliers |
| 2 | public void DeleteSupplier(string SupplierID) | Deletes a particular supplier from the list. |
| 3 | public void UpdateSupplier(Supplier supplier) | Updates the details of existing supplier. |

Class 2: RawMaterialOrder

**Fields:**

|  |  |  |
| --- | --- | --- |
| **#** | **Field** | **Description** |
| 1 | private string \_rMOrderID | Primary key (unique) value of order. |
| 2 | private string \_rMOrderDate | Date on which order is placed |
| 3 | Private string \_supplierID | (Foreign key) unique value of supplier. |
| 4 | Private double \_rMOrderPrice | Total price of all the orders of a particular raw material. |

**Properties:**

|  |  |  |
| --- | --- | --- |
| **#** | **Property** | **Validations** |
| 1 | public string RMOrderID | Unique; not null; Five characters; System-generated (starts with RO001, generated with the help of random function) |
| 2 | public DateTime RMOrderDate |  |
| 3 | public double RMOrderPrice | Not null, numeric, greater than 0. |

**Methods:**

|  |  |  |
| --- | --- | --- |
| **#** | **Method** | **Description** |
| 1 | Public RawMaterialOrderDetails AddRMOrder(Order order, List<OrderDetails> orderDetails ) | Adds a new order to the existing list of orders. |
| 2 | public void DeleteRMOrder(string RMOrderID) | Deletes a particular order from the list. |
| 3 | public RawMaterialOrderDetails UpdateRMOrder(Order order, List<OrderDetails> orderDetails ) | Updates the details of existing order. |
| 4 | public List<OrderDetails> GetAllRMOrders() | Returns all the orders in the list |
| 5 | public List<OrderDetails> GetRMOrdersByDate(DateTime OrderDate) | Returns all the orders in the list for a given date |
| 6 | public OrderDetails GetRMOrderByOrderID(string OrderID) | Return details of the given RMOrderID |
| 6 | public OrderDetails GetRMOrderBySupplierID(string SupplierID) | Return details of the given SupplierID |

Class 3: RawMaterialOrderDetails

**Fields:**

|  |  |  |
| --- | --- | --- |
| **#** | **Field** | **Description** |
| 1 | private string \_rMOrderID | Foreign key (unique) value of order. |
| 2 | private string \_rawMaterialID | Id of raw material |
| 3 | Private double \_rMUnitPrice | Price per unit of a raw material. |
| 4 | Private double \_rMQuantity | Total number of a particular raw material ordered for a given order ID. |
| 5 | Private double \_rMTotalPrice | Total price of the order. (product of quantity and unit price) |
| 6 | private string \_supplierID | Foreign key (unique) supplierID of order. |

**Properties:**

|  |  |  |
| --- | --- | --- |
| **#** | **Property** | **Validations** |
| 1 | public string RMOrderID | Unique; not null; Five characters; System-generated (starts with RO001, generated with the help of random function) |
| 2 | public string RawMaterialID | Unique; not null; Four characters; System-generated (starts with R001, generated with the help of random function) |
| 3 | public double RMUnitPrice | Not null, numeric, greater than 0. |
| 4 | Public double RMQuantity | Not null, numeric, greater than 0. |
| 5 | Public double RMTotalPrice | Not null, numeric, greater than 0. |

Class 4: RawMaterial

|  |  |  |
| --- | --- | --- |
| **#** | **Fields** | **Description** |
| 1 | private string \_rawMaterialId | Primary key (unique) value of the raw material. |
| 2 | private string \_rawMaterialName | Name of the raw material |
| 3 | private string \_rawMaterialCode | Code of the raw material |

**Properties:**

|  |  |  |
| --- | --- | --- |
| # |  | **validations** |
| 1 | public string RawMaterialId | Unique; not null; System-generated (starts with ‘R’, increment by 1) |
| 2 | public string RawMaterialName | Should contain only alphabet; not null.  Should be less than 30 characters |
| 3 | public string RawMaterialCode | Unique, Not Null, up to 4 characters |

**Methods:**

|  |  |  |
| --- | --- | --- |
| **#** | **Method** | **Description** |
| 1 | Public int GetQuantityByRMName(string RawMaterialName) | Returns the quantity of the raw material based on the name. |
| 2 | Public void addRawMaterial(string RawMaterialId, string RawMaterialName) | Adds new Raw material |
| 3 | Public void deleteRawMaterial(string RawMaterialId, string RawMaterialName) | Removes Raw material |
|  |  |  |
| 5 | Public List<RawMaterials> GetAllRawMaterials() | Returns the list of available raw materials. |
| 6 | Public string GetRMNameByCode(string RawMaterialCode) | Returns the name of raw material. |

Class 5: Address

**Fields:**

|  |  |  |
| --- | --- | --- |
| **#** | **Field** | **Description** |
| 1 | private string \_addressID | Primary key (unique) value of address |
| 2 | private string \_userType | user type (supplier,distributor, retailer) |
| 3 | Private string \_addressLine1 | landmark |
| 4 | Private string \_addressLine2 | Building name |
| 5 | Private int \_pincode | Pincode of the place |
| 6 | Private string \_city | City name |
| 7 | Private string \_state | State name |
| 8 | Private string \_distributorID | Distributor ID |
| 9 | Private string \_supplierID | Supplier ID |

**Properties:**

|  |  |  |
| --- | --- | --- |
| **#** | **Property** | **Validations** |
| 1 | public string AddressID | Unique; not null; Six characters; System generated, based on addressID user type (supplier, distributor, retailer) will be generated. |
| 2 | public string UserType | Not null.  Should be one among supplier,distributor, retailer |
| 3 | public string AddressLine1 | Not Null |
| 4 | public string AddressLine2 | Not Null |
| 5 | public string Pincode | Not null ;Should contain 6 characters(only numbers) |
| 6 | Public string City | Not null |
| 7 | Public string State | Not Null |
| 8 | Public string DistributorID | Null for suppliers, not null for distributors. |
| 9 | Public string SupplierID | Null for distributors, not null for suppliers. |

**Methods:**

|  |  |  |
| --- | --- | --- |
| **#** | **Method** | **Description** |
| 1 | public void AddAddress(Address address) | Adds a new address to the existing list of address. |
| 2 | public void DeleteAddress( string AddressID) | Deletes a particular address from the list. |
| 3 | public void UpdateAddress(Address product) | Updates the details of existing product. |
| 4 | public Product GetProductByID(string ProductID) | Returns the Product object that matches with the given ProductID. |
| 5 | public Product GetProductByName(string ProductName) | Returns the Product object that matches with the given ProductName. |
| 6 | public List<Product> GetAllProducts() | Returns the list of all the products |

Class 6: Product

**Fields:**

|  |  |  |
| --- | --- | --- |
| **#** | **Field** | **Description** |
| 1 | private string \_productID | Primary key (unique) value of product. |
| 2 | private string \_productName | Name of the product. |
| 3 | private string \_productCode | Code of the raw material |
| 4 | private string \_productMFD | Manufacture date of the product. |
| 5 | Private string \_productEXP | Expiry date of the product. |
| 6 | Private string \_productType | Type of the product. |

**Properties:**

|  |  |  |
| --- | --- | --- |
| **#** | **Property** | **Validations** |
| 1 | public string ProductID | Unique; not null; Four characters; System-generated (starts with P001, increment by 1) |
| 2 | public string ProductName | Alphabets only; not null.  Should be less than 30 characters. |
| 3 | Public string ProductCode | Unique, Not Null, up to 4 characters |
| 3 | public string ProductMFD | Not null; should be on or before today’s date. |
| 4 | public string ProductEXP | Not null, should be after today’s date. |
| 5 | public string ProductType | Should be one of the five products. |

**Methods:**

|  |  |  |
| --- | --- | --- |
| **#** | **Method** | **Description** |
| 1 | public void AddProduct(Product product) | Adds a new product to the existing list of products. |
| 2 | public void DeleteProduct(string ProductID) | Deletes a particular product from the list. |
| 3 | public void UpdateProduct(Product product) | Updates the details of existing product. |
| 4 | public Product GetProductByID(string ProductID) | Returns the Product object that matches with the given ProductID. |
| 5 | public Product GetProductByName(string ProductName) | Returns the Product object that matches with the given ProductName. |
| 6 | public List<Product> GetAllProducts() | Returns the list of all the products |

Class 7: ProductRawMaterials

**Fields:**

|  |  |  |
| --- | --- | --- |
| **#** | **Field** | **Description** |
| 1 | private string \_productID | (Unique) value of product. |
| 2 | private string \_rawMaterialID | (Unique) value of the raw material. |

**Properties:**

|  |  |  |
| --- | --- | --- |
| **#** | **Property** | **Validations** |
| 1 | public string ProductID | Unique; not null; Four characters; System-generated (starts with P001, increment by 1) |
| 2 | public string RawMaterialID | Unique; not null; Four characters; System-generated (starts with R001, generated with the help of random function) |

**Methods:**

|  |  |  |
| --- | --- | --- |
| 4 | Public int RawmaterialCount(string rawMaterialID,string ProductID) | Returns the quantity of the raw material. |

Class 8: ProductOrder

**Fields:**

|  |  |  |
| --- | --- | --- |
| **#** | **Field** | **Description** |
| 1 | private string \_productOrderID | Primary key (unique) value of order. |
| 2 | private string \_productOrderDate | Date on which order is placed |
| 3 | Private string \_distributorID | (Foreign key) unique value of distributor. |
| 4 | Private double \_productOrderPrice | Total price of all the orders of a particular product. |

**Properties:**

|  |  |  |
| --- | --- | --- |
| **#** | **Property** | **Validations** |
| 1 | public string ProductOrderID | Unique; not null; Four characters; System-generated (starts with O001, generated with the help of random function) |
| 2 | public DateTime ProductOrderDate |  |
| 3 | public double ProductOrderPrice | Not null, numeric, greater than 0. |

**Methods:**

|  |  |  |
| --- | --- | --- |
| **#** | **Method** | **Description** |
| 1 | public void AddProductOrder(Order order, List<OrderDetails> orderDetails ) | Adds a new order to the existing list of orders. |
| 2 | public void DeleteProductOrder(string ProductOrderID) | Deletes a particular order from the list. |
| 3 | public void UpdateProductOrder(Order order, List<OrderDetails> orderDetails ) | Updates the details of existing order. |
| 4 | public List<OrderDetails> GetAllProductOrders() | Returns all the orders in the list |
| 5 | public List<OrderDetails> GetProductOrdersByDate(DateTime OrderDate) | Returns all the orders in the list for a given date |
| 6 | public OrderDetails GetProductOrderByOrderID(string ProductOrderID) | Return details of the given ProductOrderID |

Class 9: ProductOrder Details

**Fields:**

|  |  |  |
| --- | --- | --- |
| **#** | **Field** | **Description** |
| 1 | private string \_productOrderID | Foreign key (unique) value of order. |
| 2 | private string \_productID | Id of Product |
| 3 | Private double \_productUnitPrice | Price per unit of Product. |
| 4 | Private double \_productQuantity | Total number of a particular Product ordered for a given order ID. |
| 5 | Private double \_productTotalPrice | Total price of the order. (product of quantity and unit price) |

**Properties:**

|  |  |  |
| --- | --- | --- |
| **#** | **Property** | **Validations** |
| 1 | public string ProductOrderID | Unique; not null; Four characters; System-generated (starts with PO001, generated with the help of random function) |
| 2 | public string ProductID | Unique; not null; Four characters; System-generated (starts with P001, generated with the help of random function) |
| 3 | public double ProductUnitPrice | Not null, numeric, greater than 0. |
| 4 | Public double ProductQuantity | Not null, numeric, greater than 0. |
| 5 | Public double ProductTotalPrice | Not null, numeric, greater than 0. |

Class 10: Distributer

**Fields:**

|  |  |  |
| --- | --- | --- |
| **#** | **Field** | **Description** |
| 1 | private string \_distributertID | Primary key (unique) value of distributer. |
| 2 | private string \_distributerName | Name of the distributer. |
| 3 | private string \_distributerMob | Mobile number of the distributer. |
| 4 | Private string \_addressID | Address ID of the distributer. |
| 5 | Private string \_distrubutorEmail | Email ID of distributor. |

**Properties:**

|  |  |  |
| --- | --- | --- |
| **#** | **Property** | **Validations** |
| 1 | public string DistributerID | Unique; not null; Four characters; System-generated (starts with D001, increment by 1) |
| 2 | public string DistributerName | Alphabets only; not null.  Should be less than 30 characters. |
| 3 | public string DistributerMob | Unique; not null, numeric  Should be of exact 10 digits, shouldn’t start with 0. |
| 4 | public string AddressID | Unique; Not null;; system generated (DIS001, increment by 1) Should be 6 characters. |
| 5 | Public string DistributorEmail | Unique; not null; should contain “@” and “.com”, should not contain space. |

**Methods:**

|  |  |  |
| --- | --- | --- |
| **#** | **Method** | **Description** |
| 1 | public void AddDistributer(distributer distributer) | Adds a new distributer to the existing list of distributers. |
| 2 | public void DeleteDistributer(string DistributerID) | Deletes a particular distributer from the list. |
| 3 | public void Updatedistributer(distributer distributer) | Updates the details of existing distributer. |
| 4 | public Distributer GetDistributerByID(string DistributerID) | Returns the Distributer object that matches with the given DistributerID. |
| 5 | public Distributer GetDistributerByName(string DistributerName) | Returns the Distributer object that matches with the given DistributerName. |
| 6 | public List<Distributer> GetAllDistributers() | Returns the list of all the distributers |