**Role and Privilege Mapping**

Any system will have many privileges and many roles .A Role is defined as the specific position of the person in the System and a privilege is the various functionalities he has been allocated to in the System. Write a program to implement the concept of Many relationship using the privilege and role mapping in a System where many roles can have many privileges’.

Pre-load the roles and privilages of a system and assign a role to a particular privilege (same role can be assigned to a different privilege and same privilege can be assigned to different roles) getting it as input from the user. User two types of search types: Search based on Role and search based on privilege. Your block of code should finally display the Privelages for a specific Role.

**Problem Specifications :**

**[Note: Strictly adhere to the object oriented specifications given as a part of the problem statement.Use the same class names, attribute names and method names.]**

Create a class named under **Role** with the following private member variable/attributes

* Integer Id
* String name
* String description

1. Include appropriate getters and setters.
2. Include 3 argument constructor with argument order **id,name,description.**

Create a class named **Privilege** with the following private member variables/attributes

**Problem specifications:**

* Integer Id
* String name

1. Include appropriate getters and setters.
2. Include a default constructor and 2 argument constructor with argument order **id,name.**

Create a class named **Privilege role** with the following private member variables/attributes

**Problem specifications:**

* Role role
* **Privilege Privilege**

1. Include appropriate getters and setters.
2. Include a default constructor and 2 argument constructor with argument order **role, Privilege.**

Create a PrivilegeRoleBO class, which includes following method.

|  |  |  |
| --- | --- | --- |
| S.NO | Method Name | Method Description |
| 1 | Void displayRoleDetailsByPrivilage (PrivilageRole[]priviliageRole,String privilage) | In this method, search and display the role name depends upon privilege name. |
| 2 | Void displayRole(Role[]roles) | In this method, display the pre-loaded roles. |
| 3 | Void displayPrivilage(Privilage[]privilage) | In this method, display the pre-loaded privilages. |
| 4 | Void displayPrivilage DetailsByRole (PrivilageRole[]priviliageRole,String role) | In this method, search and display the privilege name depends upon role name. |

Use System.out.format**(“%-15s%s/n”,”Id”,”Name”)** to format the string.

Create a **Main** class to test the above 4 classes. In the main method,create an array of PrivilageRole instances. Invoke the various methods PrivilageRoleBO class and test them.

**Note** :

Role and previlage details are preloaded and given in the tempalate code.

**Input and Output Foramt:**

Refer sample input and output

**[All text in bold corresponds to input and the rest corresponds to output.]**

**Sample Input and Output 1:**

Role Details :

ID Name

1 Software Developer

2 Manager

3 Tester

4 General Manager

Privilege Details :

ID Name

1 Admin

2 DecisionMaking

3 Ordering

4 Managing

5 Development

Enter the number of previlages to assign the role:

**6**

Enter the role id and previlage id 1:

**1,2**

Enter the role id and previlage id 2:

**1,1**

Enter the role id and previlage id 3:

**1,4**

Enter the role id and previlage id 4:

**2,5**

Enter the role id and previlage id 5:

**3,4**

Enter the role id and previlage id 6:

**3,1**

1. Search by role
2. Search by previlage
3. Exit.

Enter the choice:

1

Enter the role to search:

**Software Developer**

Privilage name :

Decision making

Admin

Managing

1. Search by role
2. Search by previlage
3. Exit.

Enter the choice:

**1**

Enter the role to search:

**General Manager**

**There is no previlage for that role**

1. Search by role
2. Search by previlage
3. Exit.

Enter the choice:

**2**

Enter the previlage to search:

**Admin**

Role name:

Software Developer

Tester

1. Search by role
2. Search by previlage
3. Exit.

Enter the choice:

**2**

Enter the previlage to search:

**Ordering**

**There is no role for that privilage**

1. Search by role
2. Search by previlage
3. Exit.

Enter the choice:

**3**