IM Diagnostics

Duration : 120 mins (1 session)

Instructions:

- Must read the problem statement thoroughly before start working .
- Create java project using Eclipse only
- Create all java classes in package "**com**" in src folder of created java project
- Must follow the class outline as shown in figures
- Must follow java coding standards
- Make sure your java project must be free from compilation error ,ie. zero compilation error .In case of any compilation error reported ,the project is rejected , will not considered for assessment.
- Make sure that project is created in eclipse only by the name as **IM_<name>_<emp_id>**
- Please do not use sequence generator of database ,insert primary keys manually.
- Please stick to the exact method name(case sensitive) as given in class outline.

Please Create a TEST Class having Main Method to Test all the Functionality.

Problem Statement

An MNC Training Center is looking to automate solution for managing trainee Participant and their Base Locations in which they are posted . The system should store the details in database (oracle). Develop a Java project which serves this system following below guidelines.

Create the DB structure (two tables)

1.**TBL_Participant_XXXXXX** (XXXXXX replace with your EMPID)

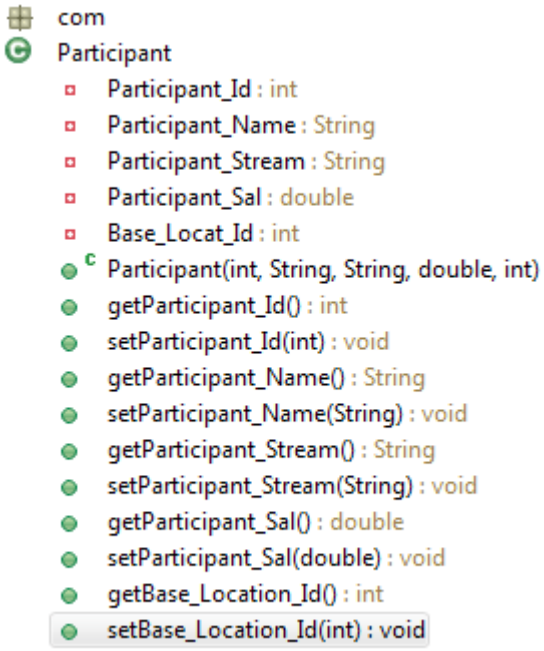
Field Data	type	Constraint
Participant_Id	number(4)	Primary Key
Participant_Name	varchar2(25)	
Participant_Stream	varchar2(25)	Should be Java/Oracle/MS.NET/SAP
Participant_Sal	number(7,2)	
Base_Locat_Id	number(2)	Foreign Key to Base_Location_Id column of Base_ Location table

2.**TBL_Base_Location_XXXXXX** (XXXXXX replace with your EMPID)

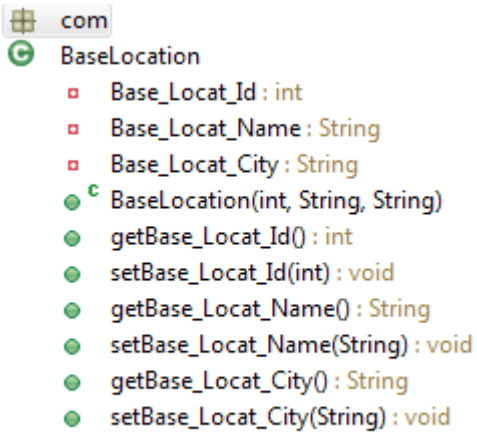
Field Data	type	Constraint
Base_Locat_Id	number(2)	Primary key
Base_Locat_Name	varchar2(50)	Should be Garima Park/Sahyadri Park/Synergy Park/Kohinoor Park
Base_Locat_City	varchar2(50)	

Class outline is shared . Ensure the same is met 100%, else your solution would be not considered.

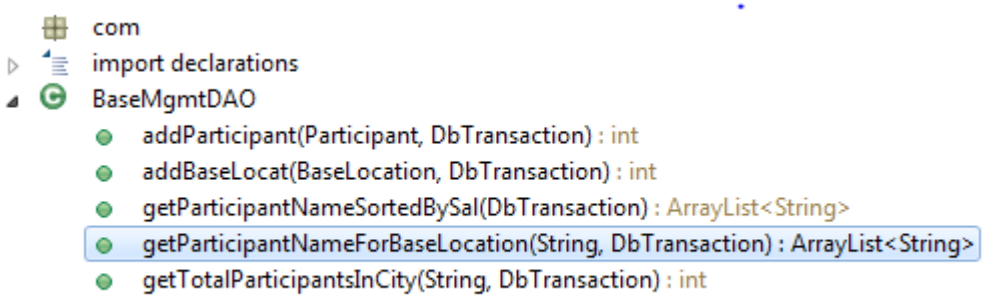
1. Create project **IM_EmpID_Name** in eclipse. Create package **com** within src folder. All classes should be created inside this package.
2. Create class – **Participant .** Refer below class outline .



3. Create class – **BaseLocation** Refer below class outline.



4. Create a dao class named **BaseMgmtDAO** to implement given below five requirement.



Use JDBC API , create insert/select query based on below given requirement.

1. **addParticipant(Participant participant, DbTransaction dbobj)** method - insert participant details into TBL_Participant_XXXXXX table and return number of Participants added.

2. **addBaseLocat(BaseLocation baseLocat, DbTransaction dbobj)** method - insert base location details into TBL_Base_Location_XXXXXX table and return number of record added.

3. **getParticipantNameSortedBySal(DbTransaction dbobj)** This method should retrieve all the Participant name that are sorted on Participant_Sal column (Sorting order is Descending order) : Method return
type is ArrayList<String>

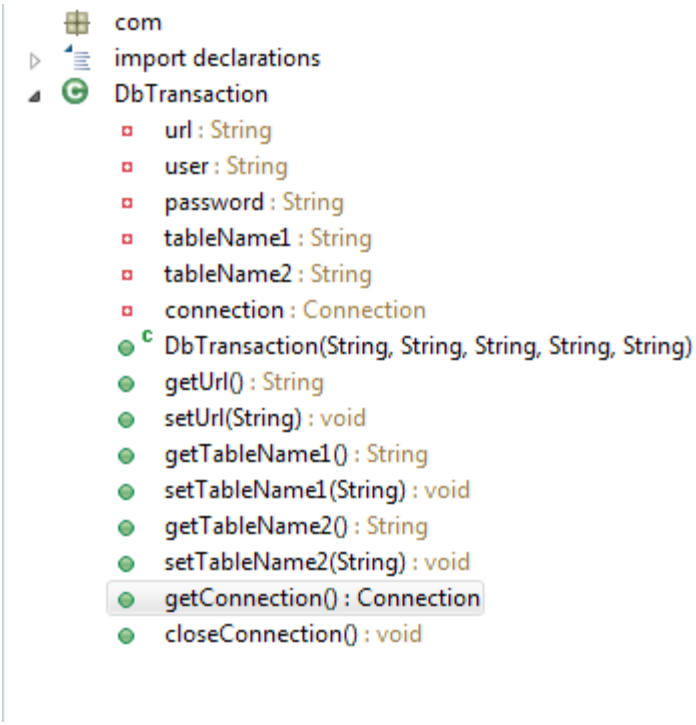
4. **getParticipantNameForBaseLocation(String baseLocationName, DbTransaction dbobj)** method retrieve Participants' Name who are posted at a specified base location : Method return type is ArrayList<String>

5. **getTotalParticipantsInCity(String City, DbTransaction dbobj)** This method retrieve total numbers of participants who are posted at given city(as given in argument) : Method
return type is int.
Note : (Use Aggregate function , JOINs, subquery whereever applicable)

6. create class DbTransaction class**:**

This class has attributes – url,tableName1,tableName2, connection, user and password.

The constructor will take parameters as below sequence:
url, user, password, tableName1,tableName2



getConnection and closeConnection should be implemented as per code below.

```
public Connection getConnection()
	{
		try
		{
			closeConnection();
			Class.forName("oracle.jdbc.driver.OracleDriver");
			connection=DriverManager.getConnection(url, user, password);

		}
		catch(SQLException e)
		{
			e.printStackTrace();

		}
		catch(ClassNotFoundException e)
		{

			e.printStackTrace();
		}
```

```
        return connection;
    }

    public void closeConnection()
    {

        try
        {
            if(connection!=null && connection.isClosed()==false)
                connection.close();
            connection=null;

        }
        catch(SQLException e)
        {
            e.printStackTrace();
        }
    }
```

Sample record: (you can use it for insertion of data)

TBL_Participant_XXXXXX

Participant_Id	Participant_Name	Stream	Participant_Sal	Base_Location_Id
1038	Adnan Vibhute	JAVA	22000	7888
1039	Sumit Sarswat	SAP	26000	7891
1040	Tushar Banerjee	JAVA	25000	7891
1041	Dhriti Dhumal	Oracle	13000	7889
1042	Ashok Khokhar	SAP	36000	7890

TBL_Base_Location_XXXXXX

Base_Locat_Id	Base_Locat_Name	Base_Locat_City
7888	Garima Park	Ahmedabad
7889	Sahyadri Park	Pune
7890	Synergy Park	Hyderabad
7891	Kohinoor Park	Mumbai