

VIJAY M

Module-3

### **Holiday Package**

The tour package details like package Id, source place, destination place, basic fare and number of days for each package should be stored in a table. Calculate the package cost based on the basic fare and the number of days for each package.

#### **Instance\_variable    Data type**

package_id	String
source_place	String
destination_place	String
no_of_days	int
package_cost	double

Create a model class to represent this with attributes, getters and setters.

Calculate the package cost for each package, based on the conditions given below,

noOfDays	discount %
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<=5	0% (No discount)
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>5 and <=8	3%
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>8 and <=10	5%
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>10	7%
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Package Cost = ((Basic fare x number of days)-discount) + GST

The package cost should be calculated based on the basic fare and the number of days. The discount should be calculated depending on the number of days as given in the above table and deducted from the calculated package cost. Finally, a GST

of 12% of the calculated package cost got after the discount, should be added to get the final package cost.

For example: If a package has a basic fare as Rs.3000 and the number of days as 15, then the package cost will be  $(3000 \times 15)$ , which is Rs. 45000.00. Since the number of days is 15, the discount percentage will be 7%. So, the discount will be  $(45000.0 \times (7/100))$  which is Rs. 3150.00. Now, 12% of GST needs to be added. So the GST will be  $((45000.0 - 3150.0) \times (12/100))$  which is Rs. 5022.00.

Therefore, the total cost for this package will be  $((3000 \times 15) - 3150.0) + 5022.0$  which is Rs. 46872.00.

Develop as a menu-driven application. This application should show options

1. Add Package details
2. Display all package details
3. Search for a package with package id
4. Calculate package cost based on package id

Use layered architecture (Client (Main class), Service Layer, Dao Layer)

Classes to be created:

**Model class - Package** –attributes (packageid, source, destination, no\_of\_days and package cost)

**PackageDao interface** – declare the methods for adding package details, displaying all packages, calculating package cost and searching a package from the collection.

**PackageDaoImpl class** – implement the method declared in **PackageDao interface**

**PackageService interface** – declare the methods – **addPackage**, **findPackageById**, **fetchAllPackages**, **calculatePackageCost**

**PackageServiceImpl class** –implement the methods of **PackageService** and call the methods of **PackageDao** class.

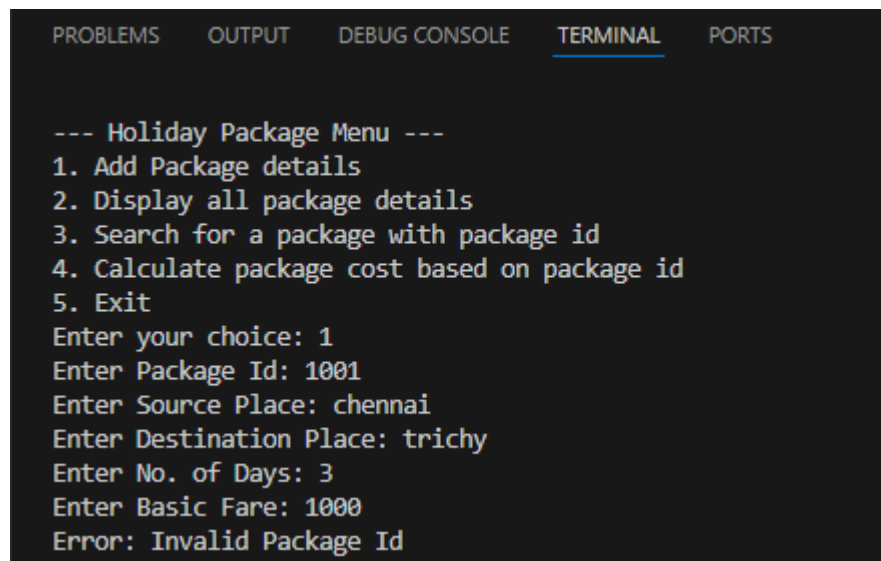
**Main class** – Create object of service class and call the methods by getting choice from the user.

### Validation:

The `packageId` should be validated before calculating the package cost; only if the `packageId` is valid, the `Package` object should be added to the list. The `packageId` should be in the following format.

The `packageId` should contain exactly 7 characters.

If the `packageId` is valid, then calculate the package cost, else throw a user defined Exception “`InvalidPackageIdException`” with a message "Invalid Package Id".



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--- Holiday Package Menu ---
1. Add Package details
2. Display all package details
3. Search for a package with package id
4. Calculate package cost based on package id
5. Exit
Enter your choice: 1
Enter Package Id: 1001
Enter Source Place: chennai
Enter Destination Place: trichy
Enter No. of Days: 3
Enter Basic Fare: 1000
Error: Invalid Package Id
```

```
--- Holiday Package Menu ---
1. Add Package details
2. Display all package details
3. Search for a package with package id
4. Calculate package cost based on package id
5. Exit
Enter your choice: 1
Enter Package Id: pack101
Enter Source Place: trichy
Enter Destination Place: chennai
Enter No. of Days: 2
Enter Basic Fare: 1000
Package added successfully.
```

```
--- Holiday Package Menu ---
1. Add Package details
2. Display all package details
3. Search for a package with package id
4. Calculate package cost based on package id
5. Exit
Enter your choice: 2
ID: pack101, Source: trichy, Destination: chennai, Day

--- Holiday Package Menu ---
1. Add Package details
2. Display all package details
3. Search for a package with package id
4. Calculate package cost based on package id
5. Exit
Enter your choice: █
```

```
--- Holiday Package Menu ---
1. Add Package details
2. Display all package details
3. Search for a package with package id
4. Calculate package cost based on package id
5. Exit
Enter your choice: 4
Enter Package Id to calculate cost: pack101
Updated Package Cost: 2240.0
```

--- Holiday Package Menu ---

```
--- Holiday Package Menu ---
1. Add Package details
2. Display all package details
3. Search for a package with package id
4. Calculate package cost based on package id
5. Exit
Enter your choice: 3
Enter Package Id to search: pack101
Found Package: Package ID: pack101
Source Place: trichy
Destination Place: chennai
Number of Days: 2
Basic Fare: 1000.0
Package Cost: 0.0
```

```
--- Holiday Package Menu ---
1. Add Package details
2. Display all package details
3. Search for a package with package id
4. Calculate package cost based on package id
5. Exit
Enter your choice: 5
Exiting...
```