

```
package com.holidayPackage.client;
```

MAIN.JAVA

```
package com.holidayPackage.client;
import java.util.List;
import java.util.Scanner;
import com.holidayPackage.model.Package;
import com.holidayPackage.service.PackageService;
import com.holidayPackage.service.PackageServiceImpl;
import com.holidayPackage.exception.InvalidPackageIdException;
public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        PackageService packageService = new PackageServiceImpl();
        while (true) {
            System.out.println("\n---- Holiday Package Management ----");
            System.out.println("1. Add Package Details");
            System.out.println("2. Display All Package Details");
            System.out.println("3. Search Package by Package ID");
            System.out.println("4. Calculate Package Cost By Package ID");
            System.out.println("5. Exit");
            System.out.print("Enter your choice: ");
            int choice = -1;
            try {
                choice = Integer.parseInt(sc.nextLine());
            } catch (NumberFormatException e) {
                System.out.println("Please enter a valid number");
                continue;
            }
            switch (choice) {
                case 1:
                    try {
                        System.out.print("Enter Package ID (7 chars): ");
                        String id = sc.nextLine();
                        System.out.print("Enter Source Place: ");
                        String source = sc.nextLine();
                        System.out.print("Enter Destination Place: ");
                        String destination = sc.nextLine();
                        System.out.print("Enter Number of Days: ");
                        int days = Integer.parseInt(sc.nextLine());
                        System.out.print("Enter Basic Fare: ");
                        double fare = Double.parseDouble(sc.nextLine());
                        Package pack = new Package(id, source, destination, days, fare);
                        packageService.addPackage(pack);
                        System.out.println("Package added successfully.");
                    } catch (InvalidPackageIdException ipe) {
```

```
        System.out.println(ipe.getMessage());
    } catch (NumberFormatException ne) {
        System.out.println("Invalid input for number of days or basic fare");
    }
    break;
case 2:
    List<Package> packages = packageService.fetchAllPackages();
    if (packages.isEmpty()) {
        System.out.println("No packages available.");
    } else {
        System.out.println("Package Details:");
        for (Package p : packages) {
            System.out.println(p);
        }
    }
    break;
case 3:
    System.out.print("Enter Package ID to search: ");
    String searchId = sc.nextLine();
    Package p = packageService.findPackageById(searchId);
    if (p != null) {
        System.out.println("Package Found: " + p);
    } else {
        System.out.println("Package not found with ID: " + searchId);
    }
    break;
case 4:
    System.out.print("Enter Package ID to calculate cost: ");
    String costId = sc.nextLine();
    try {
        packageService.calculatePackageCost(costId);
        Package costPackage = packageService.findPackageById(costId);
        System.out.printf("Package Cost for %s is Rs. %.2f\n", costId,
costPackage.getPackageCost());
    } catch (InvalidPackageIdException e) {
        System.out.println(e.getMessage());
    }
    break;
case 5:
    System.out.println("Thank you for using Holiday Package Management. Goodbye!");
    sc.close();
    System.exit(0);
default:
    System.out.println("Please enter a valid choice between 1 and 5.");
}
}
}
```

```
package com.holidayPackage.service;
```

PACKAGESERVICE.JAVA

```
import java.util.List;
import com.holidayPackage.model.Package;
import com.holidayPackage.exception.InvalidPackageIdException;
public interface PackageService {
    void addPackage(Package pack) throws InvalidPackageIdException;
    Package findPackageById(String packageId);
    List<Package> fetchAllPackages();
    void calculatePackageCost(String packageId) throws InvalidPackageIdException;
}
```

PACKAGESERVICEIMPL.JAVA

```
package com.holidayPackage.service;
import java.util.List;
import com.holidayPackage.dao.PackageDao;
import com.holidayPackage.dao.PackageDaoImpl;
import com.holidayPackage.exception.InvalidPackageIdException;
import com.holidayPackage.model.Package;
public class PackageServiceImpl implements PackageService {
    private PackageDao packageDao = new PackageDaoImpl();
    private boolean isValidPackageId(String packageId) {
        return packageId != null && packageId.length() == 7;
    }
    @Override
    public void addPackage(Package pack) throws InvalidPackageIdException {
        if (!isValidPackageId(pack.getPackageId())) {
            throw new InvalidPackageIdException("Invalid Package Id");
        }
        packageDao.addPackage(pack);
    }
    @Override
    public Package findPackageById(String packageId) {
        return packageDao.findPackageById(packageId);
    }
    @Override
    public List<Package> fetchAllPackages() {
        return packageDao.fetchAllPackages();
    }
    @Override
    public void calculatePackageCost(String packageId) throws InvalidPackageIdException {
        if (!isValidPackageId(packageId)) {
            throw new InvalidPackageIdException("Invalid Package Id");
        }
        packageDao.calculatePackageCost(packageId);
    }
}
```

```
package com.holidayPackage.dao;
```

PACKAGEDAO.JAVA

```
import java.util.List;
import com.holidayPackage.model.Package;
import com.holidayPackage.exception.InvalidPackageIdException;
public interface PackageDao {
    void addPackage(Package pack);
    List<Package> fetchAllPackages();
    Package findPackageById(String packageId);
    void calculatePackageCost(String packageId) throws InvalidPackageIdException;
}
```

PACKAGEDAOIMPL.JAVA

```
package com.holidayPackage.dao;
import java.util.ArrayList;
import java.util.List;
import com.holidayPackage.model.Package;
import com.holidayPackage.exception.InvalidPackageIdException;
public class PackageDaoImpl implements PackageDao {
    private List<Package> packages = new ArrayList<>();
    @Override
    public void addPackage(Package pack) {
        packages.add(pack);
    }
    @Override
    public List<Package> fetchAllPackages() {
        return packages;
    }
    @Override
    public Package findPackageById(String packageId) {
        for (Package p : packages) {
            if (p.getPackageId().equals(packageId)) {
                return p;
            }
        }
        return null;
    }
    @Override
    public void calculatePackageCost(String packageId) throws InvalidPackageIdException {
        Package pack = findPackageById(packageId);
        if (pack == null) {
            throw new InvalidPackageIdException("Package ID not found to calculate cost.");
        }
        double basicFare = pack.getBasicFare();
        int days = pack.getNoOfDays();
    }
}
```

```
double totalFare = basicFare * days;
double discountPercentage = 0.0;
if (days <= 5) {
    discountPercentage = 0.0;
} else if (days > 5 && days <= 8) {
    discountPercentage = 3.0;
} else if (days > 8 && days <= 10) {
    discountPercentage = 5.0;
} else {
    discountPercentage = 7.0;
}
double discount = totalFare * (discountPercentage / 100);
double costAfterDiscount = totalFare - discount;
double gst = costAfterDiscount * 0.12;
double finalCost = costAfterDiscount + gst;
pack.setPackageCost(finalCost);
}
}
```

INVALIDPACKAGEIDEXCEPTION.JAVA

```
package com.holidayPackage.exception;
public class InvalidPackageIdException extends Exception {
    public InvalidPackageIdException(String message) {
        super(message);
    }
}
```

OUTPUT

```
---- Holiday Package Management ----
1. Add Package Details
2. Display All Package Details
3. Search Package by Package ID
4. Calculate Package Cost By Package ID
5. Exit
Enter your choice: 1
Enter Package ID (7 chars): KERALAA
Enter Source Place: COIMBATORE
Enter Destination Place: PALAKKAD
Enter Number of Days: 2
Enter Basic Fare: 3999
Package added successfully.
```

```
---- Holiday Package Management ----
1. Add Package Details
2. Display All Package Details
3. Search Package by Package ID
4. Calculate Package Cost By Package ID
5. Exit
Enter your choice: 4
Enter Package ID to calculate cost: KERALAA
Package Cost for KERALAA is Rs. 8957.76
```

```
---- Holiday Package Management ----
1. Add Package Details
2. Display All Package Details
3. Search Package by Package ID
4. Calculate Package Cost By Package ID
5. Exit
Enter your choice: 2
Package Details:
Package [packageId=KERALAA, sourcePlace=COIMBATORE, destinationPlace=PALAKKAD, noOfDays=2, basicFare=3999.0, packageCost=8957.76]
```

```
---- Holiday Package Management ----
1. Add Package Details
2. Display All Package Details
3. Search Package by Package ID
4. Calculate Package Cost By Package ID
5. Exit
Enter your choice: 3
Enter Package ID to search: KERALAA
Package Found: Package [packageId=KERALAA, sourcePlace=COIMBATORE, destinationPlace=PALAKKAD, noOfDays=2, basicFare=3999.0, packageCost=8957.76]
```