package CityCompassProject;

import javax.swing.\*;

import java.awt.\*;

// Part 1: SignUp Class with Validation

class SignUp {

private static String userName;

private static String userEmail;

public static void signUp() {

while (true) {

try {

userName = JOptionPane.showInputDialog("Enter your name:");

if (userName == null || userName.isEmpty()) throw new Exception("Name cannot be empty!");

userEmail = JOptionPane.showInputDialog("Enter your email:");

if (!userEmail.contains("@")) throw new Exception("Email must contain '@'!");

JOptionPane.showMessageDialog(null, "Welcome to CityCompass, " + userName + "!");

break;

} catch (Exception e) {

JOptionPane.showMessageDialog(null, e.getMessage(), "Error", JOptionPane.ERROR\_MESSAGE);

}

}

}

public static String getUserName() {

return userName;

}

}

// Part 2: Abstract Class - Defines the base class for cities

abstract class City {

protected String name;

public City(String name) {

this.name = name;

}

public abstract String getAccommodationDetails();

public abstract String getPlacesToExploreDetails();

public abstract String getMarketPlaceDetails();

public String getCityName() {

return name;

}

}

// Part 3: Subclasses for Specific Cities

class Istanbul extends City {

public Istanbul() {

super("Istanbul");

}

@Override

public String getAccommodationDetails() {

return """

1. Ramada Plaza - A luxurious 5-star hotel located in the Sisli district, offering fine dining and a rooftop pool.

2. Grand Faith Hotel - A cozy 3-star hotel in Refik Caddesi, ideal for budget travelers.

3. The Marmara Taksim - A premium hotel at the heart of Istanbul, offering stunning city views and modern amenities.

""";

}

@Override

public String getPlacesToExploreDetails() {

return """

1. Galata Tower - A medieval stone tower with panoramic views of the Bosphorus.

2. The Blue Mosque - An architectural marvel known for its blue tiles and domes.

3. Topkapi Palace - A historical palace showcasing Ottoman artifacts and grandeur.

""";

}

@Override

public String getMarketPlaceDetails() {

return """

1. Istinye Park Mall - A modern mall with luxury brands and entertainment.

2. The Grand Bazaar - One of the world's oldest covered markets with thousands of shops.

3. Spice Bazaar - Famous for exotic spices, Turkish delights, and dried fruits.

""";

}

}

class Dhaka extends City {

public Dhaka() {

super("Dhaka");

}

@Override

public String getAccommodationDetails() {

return """

1. Pan Pacific Sonargaon Hotel - A luxurious 5-star hotel with traditional hospitality.

2. Hotel 71 - A budget-friendly option in the heart of Dhaka.

3. Radisson Blu Water Garden - A premium hotel with serene gardens and modern facilities.

""";

}

@Override

public String getPlacesToExploreDetails() {

return """

1. Lalbagh Fort - A Mughal fort offering a glimpse into Dhaka's rich history.

2. Ahsan Manzil - The Pink Palace, a historic residence of Dhaka's Nawabs.

3. Hatirjheel - A beautiful lake area, perfect for evening strolls and boating.

""";

}

@Override

public String getMarketPlaceDetails() {

return """

1. Bashundhara City - One of South Asia's largest malls with shops and eateries.

2. New Market - A bustling hub for bargain shopping.

3. Jamuna Future Park - A modern shopping mall with entertainment and dining options.

""";

}

}

class Kathmandu extends City {

public Kathmandu() {

super("Kathmandu");

}

@Override

public String getAccommodationDetails() {

return """

1. Hyatt Regency - A luxurious 5-star resort offering Himalayan views.

2. Hotel Yak & Yeti - A heritage hotel blending modern amenities with Nepalese charm.

3. Fairfield by Marriott - A modern hotel offering comfort and convenience.

""";

}

@Override

public String getPlacesToExploreDetails() {

return """

1. Swayambhunath Stupa - The Monkey Temple with panoramic valley views.

2. Pashupatinath Temple - A UNESCO World Heritage Site and a sacred Hindu temple.

3. Durbar Square - A historical complex of palaces, temples, and courtyards.

""";

}

@Override

public String getMarketPlaceDetails() {

return """

1. Thamel Market - A tourist area with shops selling handicrafts and trekking gear.

2. Durbar Square Market - Surrounded by ancient temples and palaces.

3. Asan Bazaar - A vibrant local market for spices, textiles, and fresh produce.

""";

}

}

// Part 4: Main Application with GUI

public class CityCompass {

public static void main(String[] args) {

SignUp.signUp();

JFrame mainFrame = new JFrame("CityCompass - Explore the World");

mainFrame.setSize(700, 500);

mainFrame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

mainFrame.setLayout(new GridLayout(2, 2, 10, 10));

// Buttons for cities

JButton istanbulButton = createCityButton("Explore Istanbul", new Istanbul(), new Color(173, 216, 230)); // Light Sky Blue

JButton dhakaButton = createCityButton("Explore Dhaka", new Dhaka(), new Color(221, 160, 221)); // Plum

JButton kathmanduButton = createCityButton("Explore Kathmandu", new Kathmandu(), new Color(240, 128, 128)); // Light Coral

// Add city buttons to the main frame

mainFrame.add(istanbulButton);

mainFrame.add(dhakaButton);

mainFrame.add(kathmanduButton);

mainFrame.setVisible(true);

}

private static JButton createCityButton(String label, City city, Color color) {

JButton button = new JButton(label);

button.setBackground(color);

button.addActionListener(e -> openServiceFrame(city));

return button;

}

private static void openServiceFrame(City city) {

JFrame serviceFrame = new JFrame("CityCompass - " + city.getCityName());

serviceFrame.setSize(700, 500);

serviceFrame.setDefaultCloseOperation(JFrame.DISPOSE\_ON\_CLOSE);

serviceFrame.setLayout(new GridLayout(1, 3, 10, 10));

JButton accommodationButton = createServiceButton("Accommodation", city.getAccommodationDetails(), new Color(135, 206, 235)); // Sky Blue

JButton placesButton = createServiceButton("Places to Explore", city.getPlacesToExploreDetails(), new Color(216, 191, 216)); // Thistle

JButton marketButton = createServiceButton("Marketplace", city.getMarketPlaceDetails(), new Color(255, 182, 193)); // Light Pink

serviceFrame.add(accommodationButton);

serviceFrame.add(placesButton);

serviceFrame.add(marketButton);

serviceFrame.setVisible(true);

}

private static JButton createServiceButton(String label, String details, Color color) {

JButton button = new JButton(label);

button.setBackground(color);

button.addActionListener(e -> JOptionPane.showMessageDialog(null, details, label, JOptionPane.INFORMATION\_MESSAGE));

return button;

}

}