

MIDOCEAN University

Flutter & dart - Assignment 1

Task: Smart Home Automation

Student: ■■■■■ ■■■ ■■■■■ ■■■■■■ (ID: 243000463)

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// Student: ■■■■■ ■■■ ■■■■■ ■■■■■■
// Student ID: 243000463
// University: MIDOCEAN University
// Course: Flutter & dart
// Assignment 1 - Smart Home Automation

import 'dart:io';

const int minTemp = 15;
const int maxTemp = 30;

void main() {
  bool lightsOn = false;
  int temperature = 20;
  bool securityArmed = false;

  while (true) {
    print("\n=== Smart Home Automation System ===");
    print("1. Toggle Lights");
    print("2. Set Thermostat Temperature");
    print("3. Arm/Disarm Security System");
    print("4. View System Status");
    print("5. Exit");
    stdout.write("Enter your choice: ");
    String? choice = stdin.readLineSync();

    if (choice == '5') {
      print("Exiting System... Goodbye!");
      break;
    }

    switch (choice) {
      case '1':
        lightsOn = !lightsOn;
        print("Lights turned \${lightsOn ? 'ON' : 'OFF'}");
        break;

      case '2':
        stdout.write("Enter temperature (\$minTemp - \$maxTemp): ");
        int? newTemp = int.tryParse(stdin.readLineSync()!);
        if (newTemp != null && newTemp >= minTemp && newTemp <= maxTemp) {
          temperature = newTemp;
          print("Temperature set to \$temperature°C");
        } else {
          print("Invalid temperature! Try again.");
        }
        break;

      case '3':
        securityArmed = !securityArmed;
        print("Security System is now \${securityArmed ? 'ARMED' : 'DISARMED'}");
        break;

      case '4':
        String status = "System Status:\nLights: \${lightsOn ? 'ON' : 'OFF'}\n"
          "Thermostat: \$temperature°C\nSecurity: \${securityArmed ? 'ARMED' : 'DISARMED'}\n";

        if (temperature % 3 == 0 && temperature % 5 == 0) {
          status += "Perfect Day\n";
        } else if (temperature % 3 == 0) {
          status += "Cool Day\n";
        } else if (temperature % 5 == 0) {
          status += "Warm Day\n";
        }
    }
  }
}
```

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        print(status.toUpperCase());  
        break;  
    default:  
        print("Invalid option!");  
    }  
}  
}
```