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import 'dart:io';

void main() {
  const int minTemp = 15;
  const int maxTemp = 30;

  bool lightsOn = false;
  int temperature = 20;
  bool securityArmed = false;

  while (true) {
    print('\n--- Smart Home Menu ---');
    print('1. Toggle Lights');
    print('2. Set Thermostat');
    print('3. Arm/Disarm Security');
    print('4. View System Status');
    print('5. Exit');
    stdout.write('Choose an option: ');
    String? choice = stdin.readLineSync();

    if (choice == '5') {
      print('Exiting Smart Home System...');
      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) {
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    temperature = newTemp;
    print('Temperature set to $temperature°C.');
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} else {

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    print('Invalid temperature! Please enter between $minTemp and $maxTemp.');
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}

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break;
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case '3':

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    securityArmed = !securityArmed;
    print('Security System is now ${securityArmed ? "ARMED" : "DISARMED"}.');
```

break;

case '4':

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    String lightStatus = lightsOn ? "ON" : "OFF";
    String secStatus = securityArmed ? "ARMED" : "DISARMED";
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String dayStatus = ";

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if (temperature % 3 == 0 && temperature % 5 == 0) {
    dayStatus = 'Perfect Day';
} else if (temperature % 3 == 0) {
    dayStatus = 'Cool Day';
} else if (temperature % 5 == 0) {
    dayStatus = 'Warm Day';
}
```

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print('\n--- System Status ---');
print('Lights: $lightStatus');
print('Thermostat: $temperature°C $dayStatus');
print('Security System: ${secStatus.toUpperCase()}');
break;
```

default:

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    print('Invalid option! Try again.');
```

}

}

}

```
import 'dart:io';

void main() {
  List<Map<String, double>> incomeList = [];
  List<Map<String, double>> expenseList = [];

  while (true) {
    print('\n--- Budget Management ---');
    print('1. Add Income');
    print('2. Add Expense');
    print('3. View Summary');
    print('4. Exit');
    stdout.write('Choose an option: ');
    String? choice = stdin.readLineSync();

    if (choice == '4') {
      print('Exiting Budget Manager...');
      break;
    }

    switch (choice) {
      case '1':
        stdout.write('Enter income description: ');
        String? desc = stdin.readLineSync();
        stdout.write('Enter income amount: ');
        double? amount = double.tryParse(stdin.readLineSync() ?? '');
        if (amount != null && amount > 0) {
          incomeList.add({desc ?? 'Income': amount});
          print('Income added successfully!');
        } else {
          print('Invalid amount!');
        }
        break;

      case '2':
        stdout.write('Enter expense description: ');
        String? desc = stdin.readLineSync();
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stdout.write('Enter expense amount: ');
double? amount = double.TryParse(stdin.readLineSync() ?? "");
if (amount != null && amount > 0) {
    expenseList.add({desc ?? 'Expense': amount});
    print('Expense added successfully!');
} else {
    print('Invalid amount!');
}
break;

case '3':
    double totalIncome = incomeList.fold(0, (sum, item) => sum + item.values.first);
    double totalExpense = expenseList.fold(0, (sum, item) => sum + item.values.first);
    double net = totalIncome - totalExpense;

    print('\n--- Summary ---');
    print('Total Income: \${totalIncome.toStringAsFixed(2)}');
    print('Total Expenses: \${totalExpense.toStringAsFixed(2)}');

    if (net > 0) {
        double tax = net * 0.15;
        print('Your net profit is \${net.toStringAsFixed(2)}');
        print('Tax to pay (15%): \${tax.toStringAsFixed(2)}');
    } else if (net < 0) {
        print('Your net loss is \${(-net).toStringAsFixed(2)}');
    } else {
        print('You broke even.');
    }
    break;

default:
    print('Invalid option! Try again.');
```

```

}
}
}

```