Part 10: Switch - Java Challenges & Code

1. Create a calculator using switch

```
import java.util.Scanner;

public class SwitchCalculator {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter two numbers: ");
        double a = sc.nextDouble();
        double b = sc.nextDouble();
        System.out.print("Enter operator (+, -, *, /): ");
        char op = sc.next().charAt(0);

        switch (op) {
            case '+':
                System.out.println("Result: " + (a + b));
                break;
            case '-':
                System.out.println("Result: " + (a - b));
                break;
            case '*':
                System.out.println("Result: " + (a * b));
                break;
            case '/':
                if (b != 0)
                    System.out.println("Result: " + (a / b));
                else
                    System.out.println("Cannot divide by zero");
                break;
            default:
                System.out.println("Invalid operator");
        }
    }
}
```

2. Map number to month name using switch

```
import java.util.Scanner;

public class MonthMapper {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter month number (1-12): ");
        int month = sc.nextInt();

        switch (month) {
            case 1: System.out.println("January"); break;
            case 2: System.out.println("February"); break;
            case 3: System.out.println("March"); break;
            case 4: System.out.println("April"); break;
```

```
            case 5: System.out.println("May"); break;
            case 6: System.out.println("June"); break;
            case 7: System.out.println("July"); break;
            case 8: System.out.println("August"); break;
            case 9: System.out.println("September"); break;
            case 10: System.out.println("October"); break;
            case 11: System.out.println("November"); break;
            case 12: System.out.println("December"); break;
            default: System.out.println("Invalid month number");
        }
    }
}
```

3. Implement a simple menu using switch

```
import java.util.Scanner;

public class MenuExample {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Menu:");
        System.out.println("1. Say Hello");
        System.out.println("2. Say Goodbye");
        System.out.println("3. Exit");
        System.out.print("Enter choice: ");
        int choice = sc.nextInt();

        switch (choice) {
            case 1:
                System.out.println("Hello!");
                break;
            case 2:
                System.out.println("Goodbye!");
                break;
            case 3:
                System.out.println("Exiting...");
                break;
            default:
                System.out.println("Invalid choice");
        }
    }
}
```

4. Use enhanced switch (Java 14+) for better syntax

```
import java.util.Scanner;

public class EnhancedSwitch {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a day number (1-7): ");
        int day = sc.nextInt();

        String dayName = switch (day) {
```

```
            case 1 -> "Monday";
            case 2 -> "Tuesday";
            case 3 -> "Wednesday";
            case 4 -> "Thursday";
            case 5 -> "Friday";
            case 6 -> "Saturday";
            case 7 -> "Sunday";
            default -> "Invalid day";
        };

        System.out.println("Day: " + dayName);
    }
}
```

5. Implement day of the week based on integer input

```
import java.util.Scanner;

public class DayOfWeek {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter day number (1-7): ");
        int day = sc.nextInt();

        switch (day) {
            case 1: System.out.println("Sunday"); break;
            case 2: System.out.println("Monday"); break;
            case 3: System.out.println("Tuesday"); break;
            case 4: System.out.println("Wednesday"); break;
            case 5: System.out.println("Thursday"); break;
            case 6: System.out.println("Friday"); break;
            case 7: System.out.println("Saturday"); break;
            default: System.out.println("Invalid input");
        }
    }
}
```