✅ Problem 1: Coffee Order Processing

File Name:- CoffeeOrder.java

```
import java.util.*;

public class CoffeeOrder {
  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);

    String[] drinks = {"Espresso", "Latte", "Cappuccino", "Mocha", "Americano"};
    double basePrice = 0;
    double addonPrice = 0;

    System.out.println("Available drinks:");
    for (int i = 0; i < drinks.length; i++) {
      System.out.println((i + 1) + ". " + drinks[i]);
    }

    System.out.print("Choose your drink (1-5): ");
    int drinkChoice = sc.nextInt();
    sc.nextLine(); // flush

    System.out.print("Choose size (S/M/L): ");
    char size = sc.next().toUpperCase().charAt(0);

    switch (size) {
      case 'S': basePrice = 2.0; break;
      case 'M': basePrice = 3.0; break;
      case 'L': basePrice = 4.0; break;
      default: System.out.println("Invalid size"); return;
    }

    System.out.print("Add whipped cream? (yes/no): ");
    String whipped = sc.next();
    if (whipped.equalsIgnoreCase("yes")) addonPrice += 0.5;

    System.out.print("Add extra shot? (yes/no): ");
    String shot = sc.next();
    if (shot.equalsIgnoreCase("yes")) addonPrice += 0.75;

    double total = basePrice + addonPrice;

    System.out.printf("Your %s %s costs: $%.2f\n", size, drinks[drinkChoice - 1], total);
  }
}
```

Sample Output:

```
Choose your drink (1-5): 2
Choose size (S/M/L): M
Add whipped cream? (yes/no): yes
Add extra shot? (yes/no): no
Your M Latte costs: $3.50
```

✅ Problem 2: Calculator Method with Switch

File Name:-Calculator.java

```
import java.util.*;

public class Calculator {
  public static double calculate(double a, double b, char op) {
    switch (op) {
      case '+': return a + b;
      case '-': return a - b;
      case '*': return a * b;
      case '/': return b != 0 ? a / b : Double.NaN;
      default: return Double.NaN;
    }
  }

  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter first number: ");
    double x = sc.nextDouble();
    System.out.print("Enter second number: ");
    double y = sc.nextDouble();
    System.out.print("Enter operation (+, -, *, /): ");
    char op = sc.next().charAt(0);

    double result = calculate(x, y, op);
    System.out.println("Result: " + result);
  }
}
```

Output:-Enter first number: 1
Enter second number: 5
Enter operation (+, -, *, /): +
Result: 6.0

✅ Problem 3: Count Vowels, Consonants, Digits, Special Characters

File Name:-StringAnalyzer.java

```
import java.util.*;

public class StringAnalyzer {
  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter a string: ");
    String input = sc.nextLine();

    int vowels = 0, consonants = 0, digits = 0, specials = 0;

    for (char ch : input.toCharArray()) {
```

```
        if (Character.isLetter(ch)) {
          ch = Character.toLowerCase(ch);
          if ("aeiou".indexOf(ch) >= 0) vowels++;
          else consonants++;
        } else if (Character.isDigit(ch)) {
          digits++;
        } else if (!Character.isWhitespace(ch)) {
          specials++;
        }
      }

      System.out.println("Vowels: " + vowels);
      System.out.println("Consonants: " + consonants);
      System.out.println("Digits: " + digits);
      System.out.println("Special characters: " + specials);
    }
}
```

Output:-Enter a string: Hello World
Vowels: 3
Consonants: 7
Digits: 0
Special characters: 0

✅ Problem 4: Customer Account Interest

File Name:-BankInterest.java

```
import java.util.*;

public class BankInterest {
  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter number of customers: ");
    int n = sc.nextInt();
    sc.nextLine();

    for (int i = 0; i < n; i++) {
      System.out.print("Enter name: ");
      String name = sc.nextLine();
      System.out.print("Enter account type (Savings/Fixed): ");
      String type = sc.nextLine();
      System.out.print("Enter balance: ");
      double balance = sc.nextDouble();
      sc.nextLine();

      double interest = type.equalsIgnoreCase("Savings") ? 0.04 : 0.06;
      double updatedBalance = balance + (balance * interest);
      System.out.println("Customer: " + name + ", Updated Balance: " + updatedBalance);
    }
  }
}
```

Output:-Enter number of customers: 6

```
Enter name: rahul
Enter account type (Savings/Fixed): savings
Enter balance: 4000
Customer: rahul, Updated Balance: 4160.0
```

✅ Problem 5: Temperature Conversion (C to F)

File Name:-TemperatureConverter.java

```
import java.util.*;

public class TemperatureConverter {
  public static double toFahrenheit(double celsius) {
    return (celsius * 9 / 5) + 32;
  }

  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    double[] temps = new double[5];

    for (int i = 0; i < 5; i++) {
      System.out.print("Enter temperature in Celsius: ");
      temps[i] = sc.nextDouble();
    }

    System.out.println("Celsius -> Fahrenheit:");
    for (double c : temps) {
      System.out.printf("%.2f°C = %.2f°F\n", c, toFahrenheit(c));
    }
  }
}
```

```
Output:-Enter temperature in Celsius: 56
Enter temperature in Celsius: 54
Enter temperature in Celsius: 3
Enter temperature in Celsius: 43
Enter temperature in Celsius: 45
Celsius -> Fahrenheit:
56.00°C = 132.80°F
54.00°C = 129.20°F
3.00°C = 37.40°F
43.00°C = 109.40°F
45.00°C = 113.00°F
```

✅ Problem 6: Electricity Bill Calculation

File Name:-ElectricityBill.java

```
import java.util.*;

public class ElectricityBill {
  public static double calculateBill(int units) {
    double bill = 0;
```

```
    if (units <= 100) bill = units * 1.5;
    else if (units <= 200) bill = 100 * 1.5 + (units - 100) * 2.5;
    else bill = 100 * 1.5 + 100 * 2.5 + (units - 200) * 3.5;
    return bill;
  }

  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter units consumed: ");
    int units = sc.nextInt();
    double amount = calculateBill(units);
    System.out.println("Total bill: ₹" + amount);
  }
}
```

Output:-Enter units consumed: 76
Total bill: ₹114.0

✅ Problem 7: Palindrome String with Exception Handling

File Name:-ElectricityBill.java

```
import java.util.*;

public class PalindromeCheck {
  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter a string: ");
    String input = sc.nextLine();

    try {
      if (input.isEmpty()) throw new Exception("Empty string!");

      String clean = input.replaceAll("\\s+", "").toLowerCase();
      String reverse = new StringBuilder(clean).reverse().toString();

      if (clean.equals(reverse)) System.out.println("It's a palindrome.");
      else System.out.println("Not a palindrome.");
    } catch (Exception e) {
      System.out.println("Error: " + e.getMessage());
    }
  }
}
```

Output:-Enter units consumed: 76
Total bill: ₹114.0

✅ Problem 8: Replace Characters Using Loop and Switch

File Name:-LeetSpeak.java

```
import java.util.*;

public class LeetSpeak {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.print("Enter a word: ");
      String word = sc.nextLine();
      StringBuilder result = new StringBuilder();

      for (char ch : word.toCharArray()) {
         switch (Character.toLowerCase(ch)) {
            case 'a': result.append('4'); break;
            case 'e': result.append('3'); break;
            case 'o': result.append('0'); break;
            default: result.append(ch);
         }
      }

      System.out.println("Modified word: " + result);
   }
}
```

Output:-Enter a word: Hello

Modified word: H3ll0