Problem 1: Process a coffee order: take customer size choice, calculate total price based on size and add-ons, and handle a list of 5 drink types.

import java.util.\*;

class CoffeeOrder {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("1.Espresso 2.Cappuccino 3.Latte 4.Mocha 5.Americano");

System.out.print("Choose drink (1-5): ");

int d = sc.nextInt();

System.out.print("Size (1.Small 2.Medium 3.Large): ");

int s = sc.nextInt();

double price = switch (d) {

case 1 -> 80;

case 2 -> 100;

case 3 -> 120;

case 4 -> 130;

case 5 -> 90;

default -> 0;

};

if (s == 2) price += 20;

if (s == 3) price += 40;

System.out.print("Add sugar (y/n): ");

if (sc.next().equalsIgnoreCase("y")) price += 15;

System.out.print("Add milk (y/n): ");

if (sc.next().equalsIgnoreCase("y")) price += 15;

System.out.println("Total Price: ₹" + price);

sc.close();

}

}

Problem 2: Create a method that accepts two numbers and an operation symbol. Use a switch to perform and return the result of addition, subtraction, multiplication, or division.

import java.util.\*;

class Calculator {

// Method to perform operation

static double calculate(double a, double b, char op) {

double result;

switch (op) {

case '+': result = a + b; break;

case '-': result = a - b; break;

case '\*': result = a \* b; break;

case '/':

if (b != 0) result = a / b;

else {

System.out.println("Cannot divide by zero!");

return 0;

}

break;

default:

System.out.println("Invalid operator!");

return 0;

}

return result;

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter first number: ");

double num1 = sc.nextDouble();

System.out.print("Enter second number: ");

double num2 = sc.nextDouble();

System.out.print("Enter operation (+, -, \*, /): ");

char op = sc.next().charAt(0);

double result = calculate(num1, num2, op);

System.out.println("Result: " + result);

sc.close();

}

}

Problem 3: Input a string and count vowels, consonants, digits, and special characters using loops and conditionals.

import java.util.\*;

class CountChar {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter string: ");

String s = sc.nextLine().toLowerCase();

int v=0,c=0,d=0,sp=0;

for(char ch : s.toCharArray()) {

if("aeiou".indexOf(ch)>=0) v++;

else if(ch>='a' && ch<='z') c++;

else if(ch>='0' && ch<='9') d++;

else if(ch!=' ') sp++;

}

System.out.println("Vowels:"+v+" Consonants:"+c+" Digits:"+d+" Special:"+sp);

sc.close();

}

}

Problem 4: For n customers, input name, account type, and balance. Apply 4% interest for savings and 6% for fixed accounts, then display updated balances.

import java.util.\*;

class Bank {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter number of customers: ");

int n = sc.nextInt();

for(int i=1; i<=n; i++) {

System.out.print("\nName: ");

String name = sc.next();

System.out.print("Account type (savings/fixed): ");

String type = sc.next();

System.out.print("Balance: ");

double bal = sc.nextDouble();

if(type.equalsIgnoreCase("savings"))

bal += bal \* 0.04;

else if(type.equalsIgnoreCase("fixed"))

bal += bal \* 0.06;

System.out.println("Updated balance of " + name + ": " + bal);

}

sc.close();

}

}

Problem 5: Read 5 daily temperatures into an array. Use a loop and a method to convert each temperature from Celsius to Fahrenheit, displaying both.

import java.util.\*;

class Temp {

static double f(double c) {

return (c \* 9 / 5) + 32;

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

double t[] = new double[5];

System.out.println("Enter 5 temperatures in Celsius:");

for(int i=0;i<5;i++) t[i] = sc.nextDouble();

System.out.println("Celsius\tFahrenheit");

for(double c : t)

System.out.println(c + "\t" + f(c));

sc.close();

}

}

Problem 6: Accept number of units consumed and calculate bill based on slab rates using conditionals and methods.

import java.util.\*;

class Bill {

static double calc(int u) {

if(u<=100) return u\*1.5;

else if(u<=200) return 100\*1.5 + (u-100)\*2.5;

else if(u<=300) return 100\*1.5 + 100\*2.5 + (u-200)\*3.5;

else return 100\*1.5 + 100\*2.5 + 100\*3.5 + (u-300)\*5;

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Units consumed: ");

int units = sc.nextInt();

System.out.println("Total Bill: ₹" + calc(units));

sc.close();

}

}

Problem 7: Input a string and check if it’s a palindrome (ignore case and spaces). Use string methods and exception handling.

import java.util.\*;

class Palindrome {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter string: ");

String s = sc.nextLine().replace(" ", "").toLowerCase();

String r = "";

for(int i=s.length()-1;i>=0;i--) r += s.charAt(i);

System.out.println(s.equals(r) ? "Palindrome" : "Not Palindrome");

sc.close();

}

}

Problem 8: Read a word (String). Use a loop and a switch on each character to replace 'a' with '4', 'e' with '3', and 'o' with '0'.

import java.util.\*;

class ReplaceChars {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter word: ");

String w = sc.nextLine(), r = "";

for(char c : w.toCharArray())

switch(c){

case 'a','A' -> r+='4';

case 'e','E' -> r+='3';

case 'o','O' -> r+='0';

default -> r+=c;

}

System.out.println("Modified: " + r);

sc.close();

}

}