#LEVEL 1:

import java.util.Scanner;

import java.util.ArrayList;

public class Level1Practice {

public static void main(String[] args) {

votingEligibility();

numberClassification();

multiplicationTable();

storeValues();

multiplicationTable6To9();

meanHeight();

oddEvenSeparation();

factors();

copy2DTo1D();

fizzBuzz();

}

// 1. Voting Eligibility

public static void votingEligibility() {

Scanner scanner = new Scanner(System.in);

int[] ages = new int[10];

for (int i = 0; i < 10; i++) {

System.out.print("Enter age of student " + (i + 1) + ": ");

ages[i] = scanner.nextInt();

}

for (int age : ages) {

if (age < 0) {

System.out.println("Invalid age");

} else if (age >= 18) {

System.out.println("The student with age " + age + " can vote.");

} else {

System.out.println("The student with age " + age + " cannot vote.");

}

}

}

// 2. Number Classification and Comparison

public static void numberClassification() {

Scanner scanner = new Scanner(System.in);

int[] numbers = new int[5];

for (int i = 0; i < 5; i++) {

System.out.print("Enter number " + (i + 1) + ": ");

numbers[i] = scanner.nextInt();

}

for (int num : numbers) {

if (num > 0) {

System.out.println(num + " is Positive and " + (num % 2 == 0 ? "Even" : "Odd"));

} else if (num < 0) {

System.out.println(num + " is Negative");

} else {

System.out.println("Zero");

}

}

}

// 3. Multiplication Table

public static void multiplicationTable() {

Scanner scanner = new Scanner(System.in);

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

int num = scanner.nextInt();

for (int i = 1; i <= 10; i++) {

System.out.println(num + " \* " + i + " = " + (num \* i));

}

}

// 4. Store Values Until Condition Met

public static void storeValues() {

Scanner scanner = new Scanner(System.in);

ArrayList<Double> numbers = new ArrayList<>();

double total = 0;

while (true) {

System.out.print("Enter a number (0 or negative to stop): ");

double num = scanner.nextDouble();

if (num <= 0 || numbers.size() == 10) break;

numbers.add(num);

}

for (double num : numbers) {

total += num;

}

System.out.println("Total sum: " + total);

}

// 5. Multiplication Table from 6 to 9

public static void multiplicationTable6To9() {

Scanner scanner = new Scanner(System.in);

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

int num = scanner.nextInt();

for (int i = 6; i <= 9; i++) {

System.out.println(num + " \* " + i + " = " + (num \* i));

}

}

// 6. Mean Height of Football Players

public static void meanHeight() {

Scanner scanner = new Scanner(System.in);

double sum = 0;

for (int i = 0; i < 11; i++) {

System.out.print("Enter height of player " + (i + 1) + ": ");

sum += scanner.nextDouble();

}

System.out.println("Mean height of players: " + (sum / 11));

}

// 7. Odd and Even Numbers Separation

public static void oddEvenSeparation() {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a positive number: ");

int num = scanner.nextInt();

if (num < 1) {

System.out.println("Error: Not a natural number.");

return;

}

ArrayList<Integer> evens = new ArrayList<>();

ArrayList<Integer> odds = new ArrayList<>();

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

if (i % 2 == 0) evens.add(i);

else odds.add(i);

}

System.out.println("Even numbers: " + evens);

System.out.println("Odd numbers: " + odds);

}

// 8. Finding Factors

public static void factors() {

Scanner scanner = new Scanner(System.in);

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

int num = scanner.nextInt();

ArrayList<Integer> factors = new ArrayList<>();

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

if (num % i == 0) factors.add(i);

}

System.out.println("Factors of " + num + ": " + factors);

}

// 9. Copy 2D Array into 1D Array

public static void copy2DTo1D() {

Scanner scanner = new Scanner(System.in);

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

int rows = scanner.nextInt();

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

int cols = scanner.nextInt();

int[][] matrix = new int[rows][cols];

int[] array = new int[rows \* cols];

int index = 0;

for (int i = 0; i < rows; i++) {

for (int j = 0; j < cols; j++) {

System.out.print("Enter value for [" + i + "][" + j + "]: ");

matrix[i][j] = scanner.nextInt();

array[index++] = matrix[i][j];

}

}

System.out.println("1D Array: ");

for (int num : array) {

System.out.print(num + " ");

}

}

// 10. FizzBuzz

public static void fizzBuzz() {

Scanner scanner = new Scanner(System.in);

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

int num = scanner.nextInt();

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

if (i % 3 == 0 && i % 5 == 0) System.out.println(i + " = FizzBuzz");

else if (i % 3 == 0) System.out.println(i + " = Fizz");

else if (i % 5 == 0) System.out.println(i + " = Buzz");

else System.out.println(i + " = " + i);

}

}

}