QUESTION 1;

import java.util.Scanner;

public class PerfectNumbers {

public static boolean isPerfectNumber(int num) {

int sum = 0;

for (int i = 1; i <= num / 2; i++) {

if (num % i == 0) {

sum += i;

}

}

return sum == num;

}

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter the value of n: ");

int n = scanner.nextInt();

System.out.println("The first " + n + " perfect numbers are:");

int count = 0;

int number = 1;

while (count < n) {

if (isPerfectNumber(number)) {

System.out.println(number);

count++;

}

number++;

}

scanner.close();

}

}

QUESTION 3;

import java.util.Scanner;

public class FactorialRecursive {

public static int factorial(int n) {

if (n == 0 || n == 1) {

return 1;

} else {

return n \* factorial(n - 1);

}

}

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a non-negative integer: ");

int num = scanner.nextInt();

if (num < 0) {

System.out.println("Factorial is not defined for negative numbers.");

} else {

int result = factorial(num);

System.out.println("Factorial of " + num + " is: " + result);

}

scanner.close();

}

}

QUESTION 4;

public class Main {

public static void main(String[] args) {

int rows = 5;

for(int i = rows; i >= 1; --i) {

for(int space = 1; space <= rows - i; ++space) {

System.out.print(" ");

}

for(int j=i; j <= 2 \* i - 1; ++j) {

System.out.print("\* ");

}

for(int j = 0; j < i - 1; ++j) {

System.out.print("\* ");

}

System.out.println();

}

}

}

QUESTION 5;

public class MultiplyMatrices {

public static void main(String[] args) {

int r1 = 2, c1 = 3;

int r2 = 3, c2 = 2;

int[][] firstMatrix = { {3, -2, 5}, {3, 0, 4} };

int[][] secondMatrix = { {2, 3}, {-9, 0}, {0, 4} };

int[][] product = new int[r1][c2];

for(int i = 0; i < r1; i++) {

for (int j = 0; j < c2; j++) {

for (int k = 0; k < c1; k++) {

product[i][j] += firstMatrix[i][k] \* secondMatrix[k][j];

}

}

}

System.out.println("Multiplication of two matrices is: ");

for(int[] row : product) {

for (int column : row) {

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

}

System.out.println();

}

}

}