midterm1-prep-inclass-sol.txt

1.

public static void problem1()

{

for (int i = 3; i < 61; i += 3)

{

if (i % 2 == 0) {

System.out.println(i);

}

}

}

2.

public static int[] reverseArray(int[] array)

{

int[] rev = new int[array.length];

int j = array.length-1;

for (int i = 0; i < rev.length; i++)

{

rev[i] = array[j];

j--;

}

return rev;

}

3.

public static int countZeroRows(int[][] matrix)

{

int count = 0;

for (int row = 0; row < matrix.length; row++)

{

for (int col = 0; col < matrix[row].length; col++)

{

if (matrix[row][col] == 0) {

count++;

break; // skip the rest of this row once a zero is found

}

}

}

return count;

}

3. (another way)

public static int countZeroRows(int[][] matrix)

{

int countRowsWithAZero = 0;

for (int row = 0; row < matrix.length; row++)

{

int countZerosOnThisRow = 0;

for (int col = 0; col < matrix[row].length; col++)

{

if (matrix[row][col] == 0) {

countZerosOnThisRow++;

}

}

if (countZerosOnThisRow >= 1) {

countRowsWithAZero++;

}

}

return countRowsWithAZero;

}

4.

public class Die {

private int roll;

public Die()

{

roll = (int)(Math.random() \* 6 + 1); // roll the die the first time

}

public int roll() {

roll = (int)(Math.random() \* 6 + 1);

return roll; // could also make a void function and not return anything

}

public int getCurrentRoll() {

return roll;

}

}

5.

(continuation of the main function:)

Date bday = new Date(m, d, 2021);

Date today = new Date(10, 6, 2021);

int daysBetween = bday.daysBetween(today); // get days between today and bday

if (today.isBefore(bday)) {

System.out.println("Your birthday hasn't arrived this year yet.");

System.out.println("It is " + daysBetween + " days away!");

}

else if (bday.isBefore(today)) {

System.out.println("Your birthday has already occurred this year.");

System.out.println("It is " + daysBetween + " past your birthday.");

}

else {

System.out.println("Today is your birthday!");

}

// You could also use the equal() method to test if today is your birthday.