

Problem 1

Write a static function which takes a two-dimensional rectangular array of `ints`, for example

```
int[][] arr = { {1,3,2}, {3,4,8}, {2,6,8}, {1,8,5} };
```

and then calculates and prints the index of the ‘row’ with the largest sum of elements and the index of the ‘column’ with the largest sum of elements (in the example above this would be indices 2 and 2). Of course, the program should work for any two-dimensional rectangular array, with arbitrary dimensions.

Problem 2

Write a static function which takes a two-dimensional array of `ints`, for example

```
int[][] arr = { {1,3}, {3,4,5,8}, {6,8}, {1,9,6} };
```

and then creates and returns an array of size `arr.length` the elements of which are equal to maximum elements of subsequent ‘rows’ of the array `arr` (of course, the program should work with any definition of this array).

Problem 3

Write a static function which takes a two-dimensional array of `ints`, for example

```
int[][] arr = { {1,2,3,4,5}, {1,9}, {3,1,8} };
```

and creates and returns two-element array whose first element is equal to the number of even elements of array `arr` and the second to the number of odd elements. For the array as above, the result should be

Even: 3; odd: 7

Problem 4

Write a static function `inner` which takes a two-dimensional *rectangular* (by assumption) array of `ints` (we assume that both number of rows and number of columns are not smaller than three). The function creates and returns a new two-dimensional array which contains the “inner part” of the original array, i.e., without the first and the last row and without the first and the last column. It doesn’t print anything!

For example, the following program

```
import java.util.Arrays;
public class Arr2DInn {
    // ...
    public static void main (String[] args) {
```

[download Arr2DInn.java](#)

```

int[] [] a = { {1,2,3,4,5,6},
               {2,3,4,5,6,7},
               {3,4,5,6,7,8},
               {4,5,6,7,8,9} };
for (int[] r : a)
    System.out.println(Arrays.toString(r));
System.out.println();
for (int[] r : inner(a))
    System.out.println(Arrays.toString(r));
}
}

```

should print

```

[1, 2, 3, 4, 5, 6]
[2, 3, 4, 5, 6, 7]
[3, 4, 5, 6, 7, 8]
[4, 5, 6, 7, 8, 9]

[3, 4, 5, 6]
[4, 5, 6, 7]

```
