Övningar i Funktionell Nedbrytning

Joachim von Hacht

Funktionell Nedbrytning 1

Skissa en funktionell nedbrytning! Någon fundamental operation?

```
int[][] m1 = {
        {1, 1, 3},
        {1, 2, 2},
        {1, 0, 3},
};
int[][] m2 = {
        {0, 1, 3},
        {1, 3, 2},
        {0, 1, 2},
};
// There are 2 pairs (x,y) with x from m1 and y from m2 that
// sums to 0
out.println(countPairs(m1, m2, 0) == 2);
// There are 8 pairs (x,y) with x from m1 and y from m2 that
// sums to 5
out.println(countPairs(m1, m2, 5) == 8);
```

Funktionell Nedbrytning 2

Skissa en funktionell nedbrytning! Någon fundamental operation?

```
int[][] m1 = {
        {7, 1, 3, 6},
        {6, 2, 7, 1},
        {8, 9, 1, 3,},
        {5, 6, 9, 1},
};
int[][] m2 = {
        {7, 1, 3, 9},
        {6, 9, 7, 1},
        {7, 9, 1, 3,},
        {5, 7, 9, 1},
};
// There is one element common to all rows in m1
out.println(Arrays.toString(getCommonRowElements(m1)).equals("[1]"));
// There is three element common to all rows in m2
out.println(Arrays.toString(getCommonRowElements(m2)).equals("[7, 1, 9]"));
```

Funktionell Nedbrytning 3

Skissa en funktionell nedbrytning! Någon fundamental operation?

```
// NOTE: Only positive elements
// Order of elements in row matters
int[][] m1 = {
        {7, 1, 3, 6},
        {6, 2, 7, 1},
        {8, 9, 1, 3,},
        {5, 6, 9, 1},
};

int[][] m2 = {
        {7, 1, 3, 9},
        {6, 9, 7, 1},
        {7, 1, 3, 9,},  // Duplicate
        {7, 1, 3, 9},   // Duplicate
};
// There are four unique rows in m1 (no duplicates)
out.println(uniqueRows(m1) == 4);
// There are 2 unique rows in m2 (three duplicates)
out.println(uniqueRows(m2) == 2);
```