2013-UA-01-2.odt Colourful Table

Body

A little beaver would like to pave his new room with different coloured tiles:
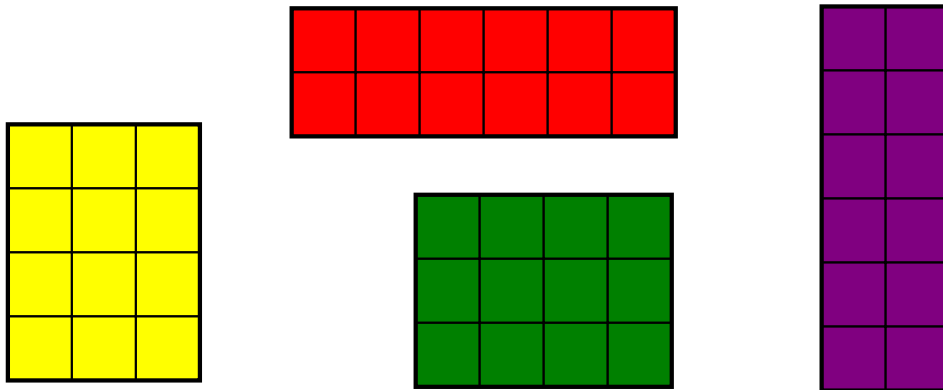
He decided that he will not rotate or cut the tiles in any way.
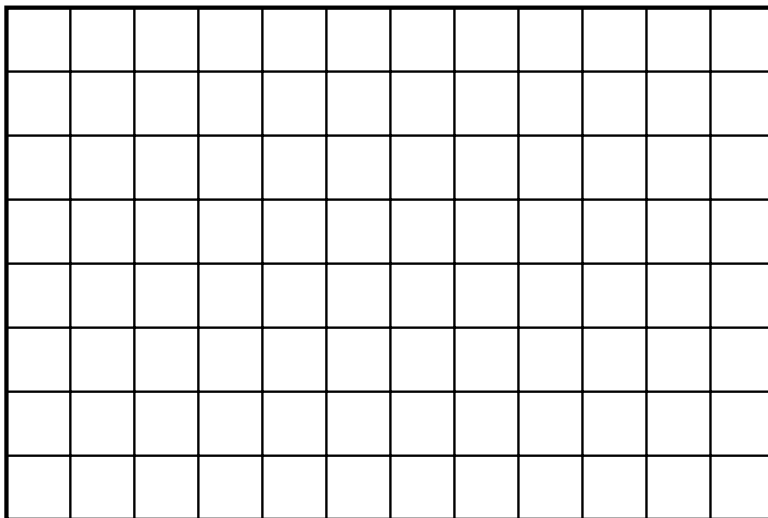
He wants to make his room as colorful as possible.

Question

What is the maximum number of different colours he can use to pave the room in the picture?
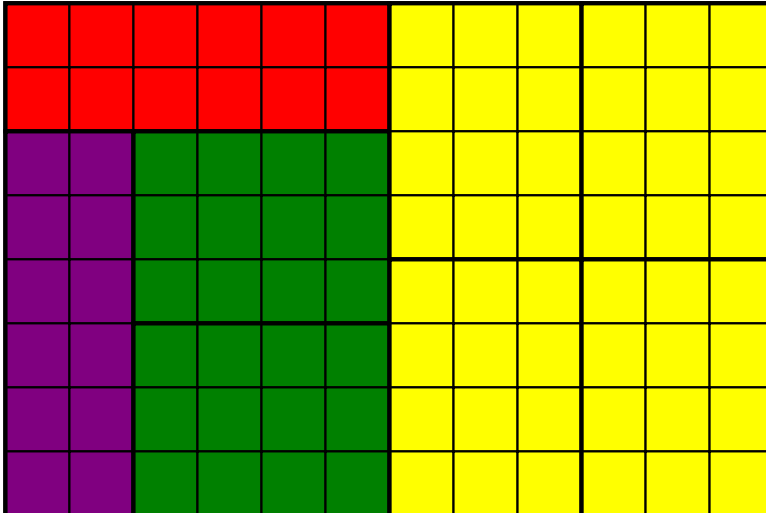
 a) 1
 b) 2
 c) 3
 d) 4

d) 4

Explanation

You have to think about the sizes of the tiles you can choose from and order them in a way that makes the floor as colorful as possible.
For example:

It's informatics

The partition on the subsets of given sizes is one of the classical problems in the Algorithms theory.
It is packing problem, where we have an area and we decide how to cover the area with certain shapes.

Keywords

Partition, graphical algorithm

Websites

Internal Use
Wording

Comments

Christian Datzko, Switzerland, christian.datzko@edubs.ch: the same comments as for 2013-UA-01-1 apply, see ../2013-UA-01-1/2014-UA-01-review.ods.

Špela Cerar, 2014-06-03: could be interactive, changed wording, we would prefer svg graphics
Peter Garscha, Austria, peter@rlsux.com, 2014-06-03: svg-graphics missing, it's informatics need more explanation.

Ahto Truu, ahto.truu@ut.ee (2014-09-25): regenerated all graphics in SVN and PNG.

Files

2013-UA-01-2.odt (this file)
floor8x10.png
floor8x10.svg
tile2x8red.png
tile2x8red.svg
tile4x4green.png
tile4x4green.svg
tile8x2purple.png
tile8x2purple.svg
floor8x10answer.png
floor8x10answer.svg

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