

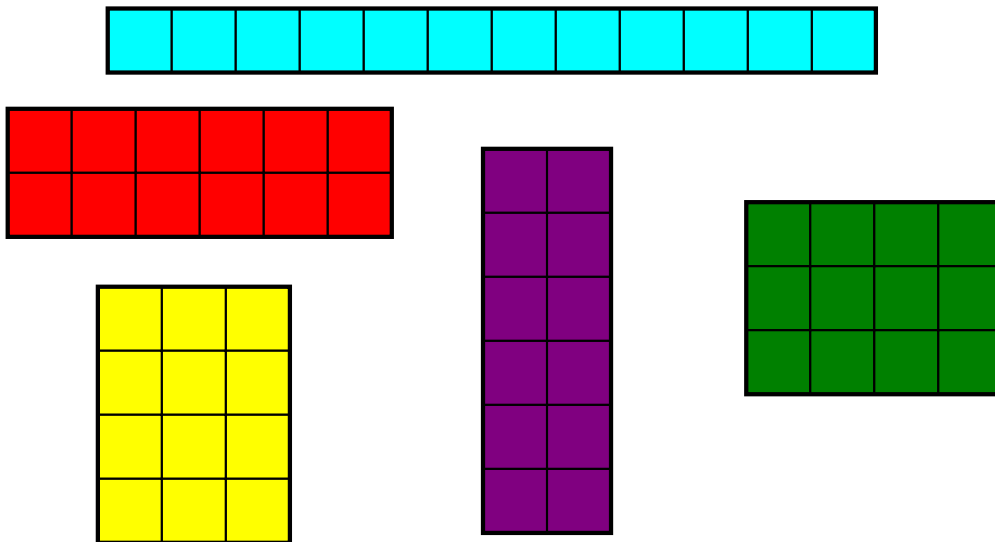
## 2013-UA-01-4.odt Colourful Table

0 ----		I: -----		II: medium		III: easy		IV: easy	
<input type="checkbox"/> ALG	<input type="checkbox"/> INF	<input type="checkbox"/> STRUC	<input type="checkbox"/> PUZ	<input type="checkbox"/> SOC	<input type="checkbox"/> USE				

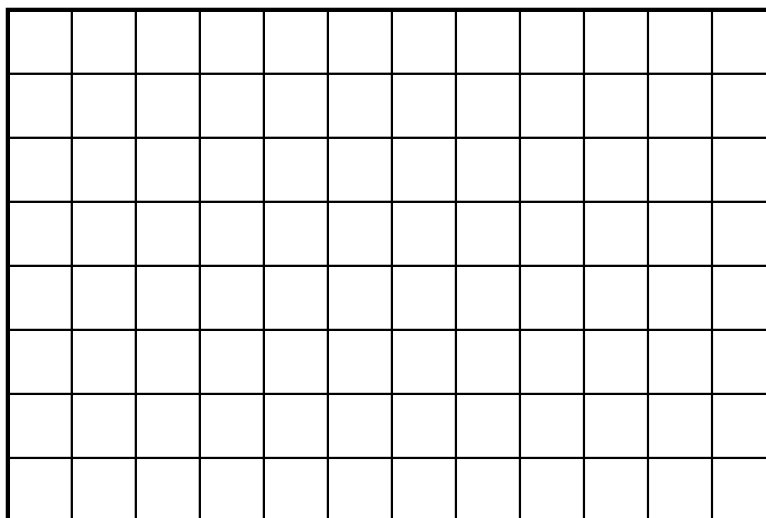
Answer Type: Multiple Choice (may be interactive)

### 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) 2

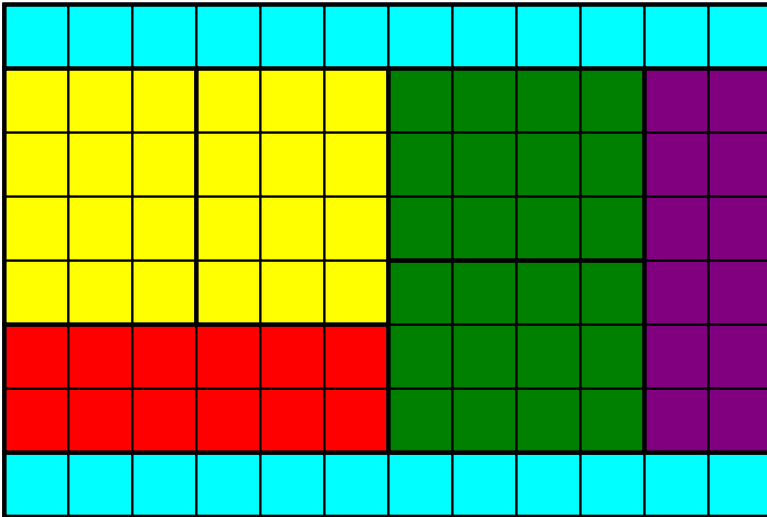
- b) 3
- c) 4
- d) 5

## Answer

c) 5

## Explanation

All kinds of tiles can be used to pave the room. 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](mailto: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, vector graphics should be made

Peter Garscha, Austria, [peter@rlsux.com](mailto:peter@rlsux.com), 2014-06-03: svg-graphics missing, it's informatics need more explanation.

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

## Files

2013-UA-01-4.odt (this file)  
floor8x12.png  
floor8x12.svg  
tile1x12cyan.png  
tile1x12cyan.svg  
tile2x6red.png  
tile2x6red.svg  
tile3x4green.png  
tile3x4green.svg  
tile4x3yellow.png  
tile4x3yellow.svg  
tile6x2purple.png  
tile6x2purple.svg  
floor8x12answer.png  
floor8x12answer.svg

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review: Špela and Maciej

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