List 5 report

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With out Partial Selection

Data Structure

We can safly assume that only cells that are colored can hold meaningful numbers when performing the algorithms.

$a_{1,1}$	$a_{1,2}$	$a_{1,3}$	$c_{1,4}$	0	0	0	0	0
$a_{2,1}$	$a_{2,2}$	$a_{2,3}$	0	$c_{2,5}$	0	0	0	0
$a_{3,1}$	$a_{3,2}$	$a_{3,3}$	0	0	$c_{3,6}$	0	0	0
0	0	$b_{4,3}$	$a_{4,4}$	$a_{4,5}$	$a_{4,6}$	$c_{4,7}$	0	0
0	0	$b_{5,3}$	$a_{5,4}$	$a_{5,5}$	$a_{5,6}$	0	$c_{5,8}$	0
0	0	$b_{6,3}$	$a_{6,4}$	$a_{6,5}$	$a_{6,6}$	0	0	$c_{6,9}$
0	0	0	0	0	$b_{7,6}$	$a_{7,7}$	$a_{7,8}$	$a_{7,9}$
0	0	0	0	0	$b_{8,6}$	$a_{8,7}$	$a_{8,8}$	$a_{8,9}$
0	0	0	0	0	$b_{9,6}$	$a_{9,7}$	$a_{9,8}$	$a_{9,9}$

It is also worth meansoing that majority of work done by the algorittms is done for one row, then other and so on. That's why I propose to store every color as different Vector, so that There will be less cache misses. The considerétion here is to correcly interpret coordinates, as they are not the same as in the matrix.

Ax = b

When developing algorithm I have considereted following optimazations:

- There will be none operations for last row
- when multiplaing

for x in 1:(n-1) last$_x$ = $last_meaningful_index_in_row(A, x) for k in 1 : (l - (xy = x + k$