4.2.3 Matrix-Vector Multiplication, again...

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Errata

In the video "4.2.3 Matrix Vector Multiplication Again..." there is a typo at minute 3:16.

Vector $\begin{pmatrix} 1 \\ -2 \\ 0 \\ -3 \\ 1 \end{pmatrix}$ should it be $\begin{pmatrix} -1 \\ -2 \\ 0 \\ -3 \\ 1 \end{pmatrix}$. The answer in red in that slide is correct though.

In the video "4.2.3 Matrix Vector Multiplication Again..." there is a mistake at 3:50. On the line for y_0^{next}, the second vector which corresponds to y_0^{cur} should be $\begin{pmatrix} -1 \\ -2 \end{pmatrix}$ instead of $\begin{pmatrix} 1 \\ -2 \end{pmatrix}$. (Sorry, videos are hard to correct.)

Start of transcript. Skip to the end.

Dr. Robert van de Geijn: Now that we understand

how to perform a matrix vector multiplication

with partitioned matrices, we will use this newly gained knowledge

to transform the matrix vector multiplication algorithms that we

introduced last week into algorithms that can be easily modified

to take advantage of special

1:34 / 5:17 1.0x

Video

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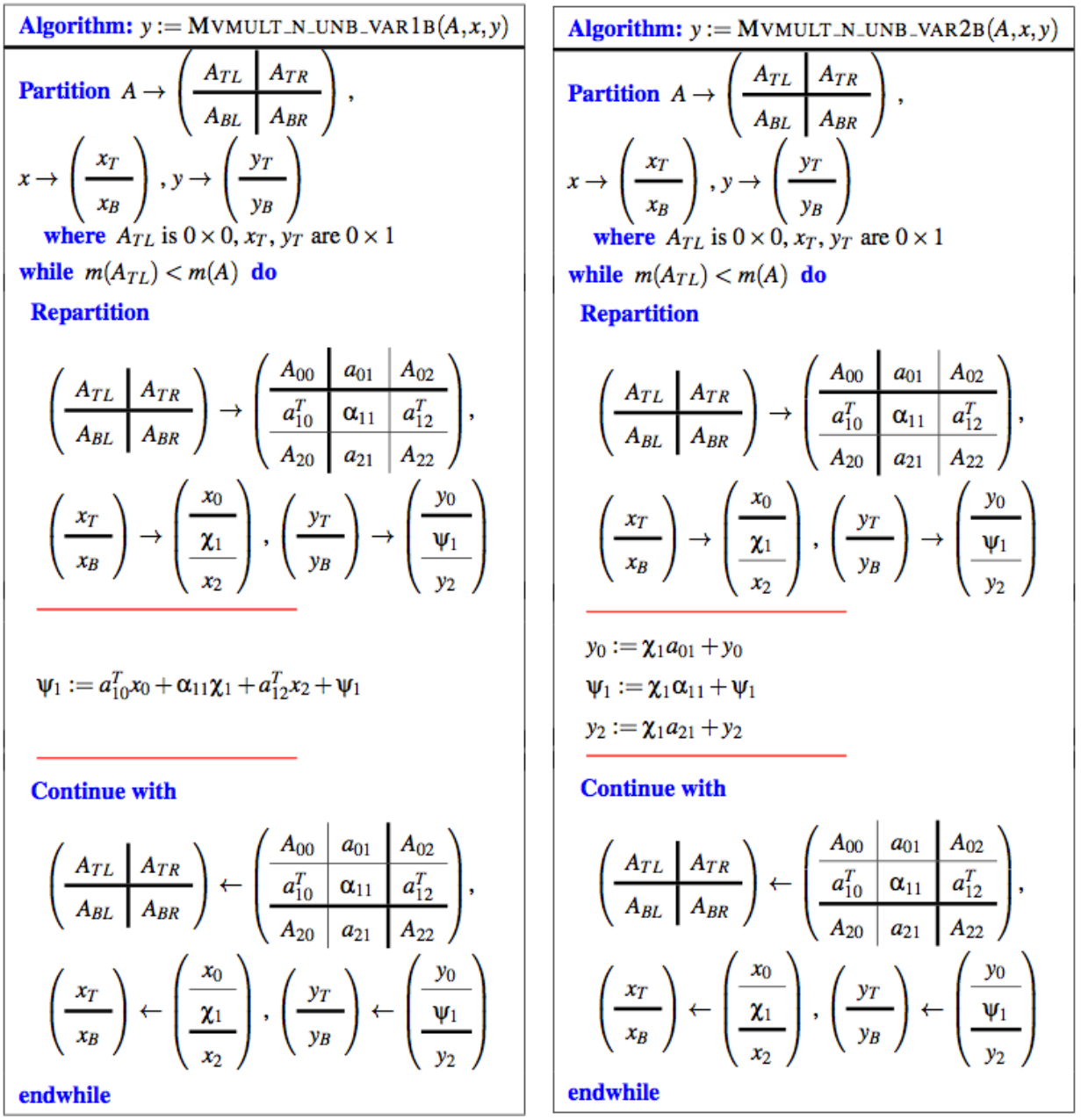
Homework 4.2.3.1

1/1 point (graded)

Write routines

- `[ y_out ] = Mvmult_n_unb_var1B( A, x, y )`
- `[ y_out ] = Mvmult_n_unb_var2B( A, x, y )`

that compute $y := Ax + y$ using the below algorithms



Some links that will come in handy:

- Spark (alternatively, open the file `LAFF-2.0xM -> Spark -> index.html`)
- PictureFLAME (alternatively, open the file `LAFF-2.0xM -> PictureFLAME -> PictureFLAME.html`)

Note: Spark will not put in the "B" in "var1B". You will have to add that manually after you generate the code skeleton.

You may want to use the following scripts to test your implementations:

- test_Mvmult_unb_var1B.m

  If you get an error that `laff_dots( ... )` is missing, move the file laff_dots.m into directory `LAFF-2.0xM -> Programming -> laff -> vecvec`

- test_Mvmult_unb_var2B.m

Done/Skip

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