3.4.2 Via AXPY Operations

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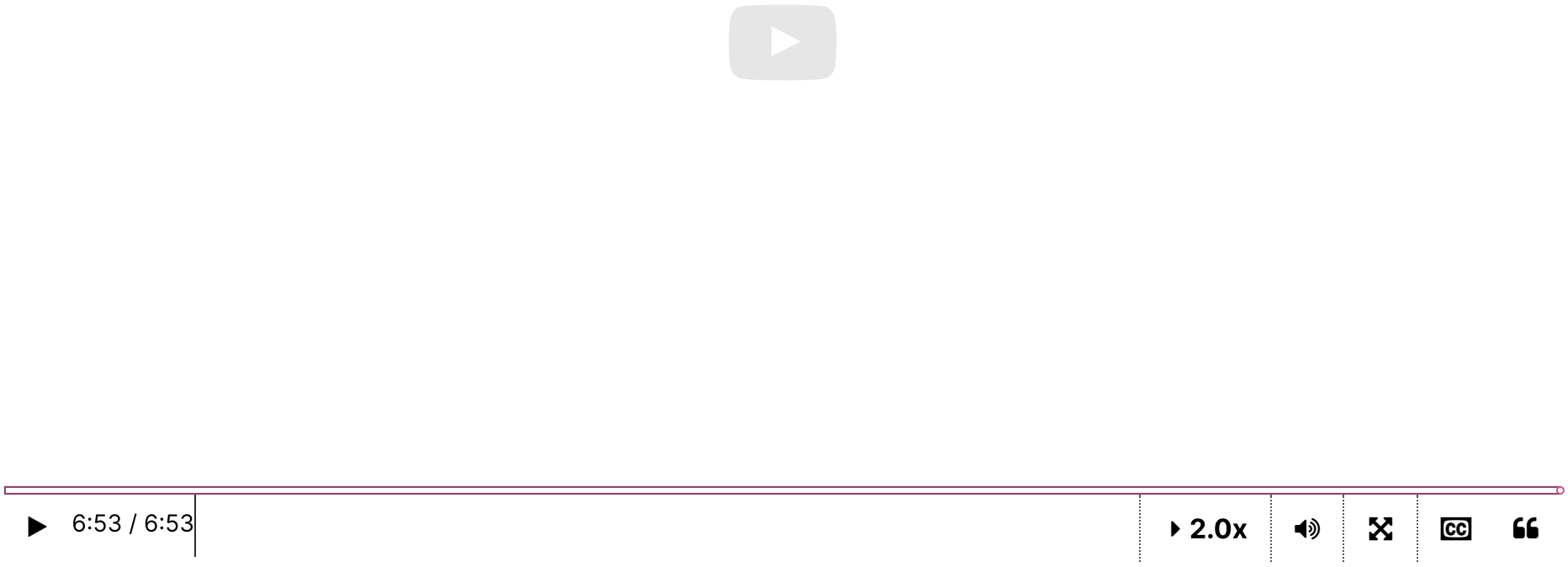
Week 3 due Oct 18, 2023 06:12 IST

3.4.2 Via AXPY Operations



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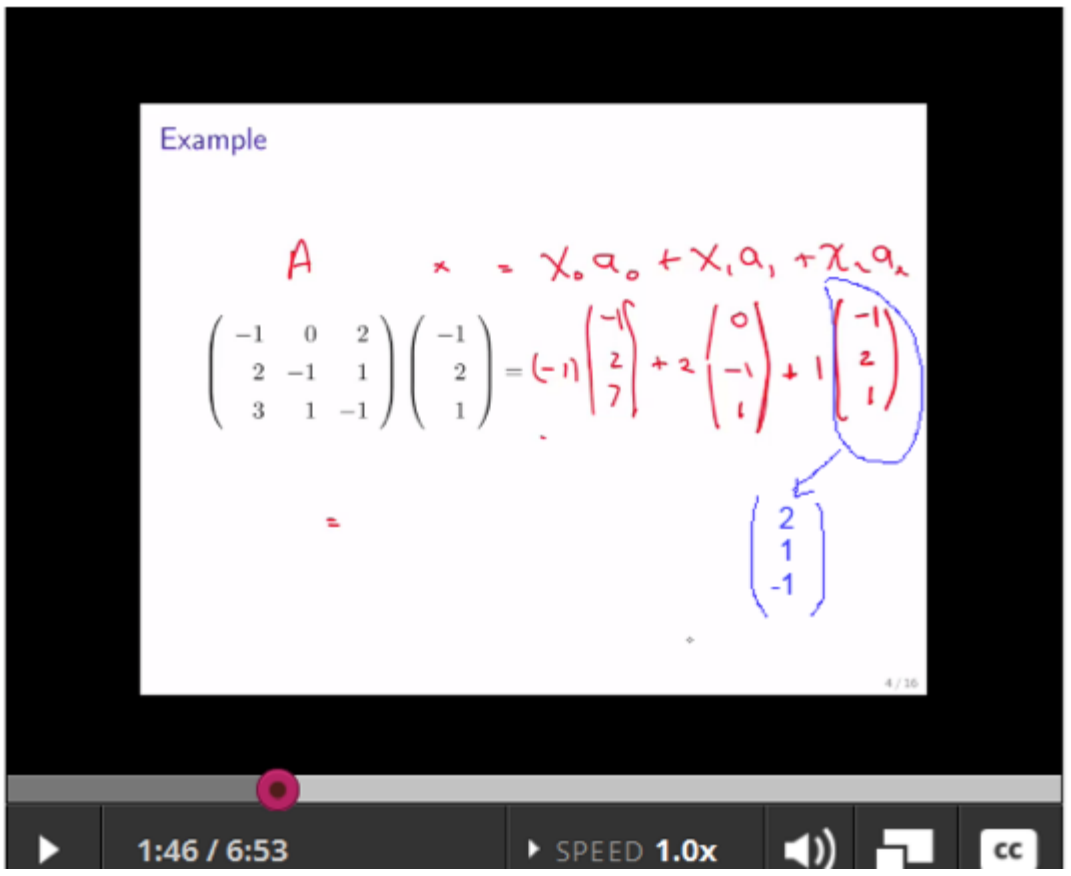
Errata: About 2 minutes into the tape, I make a mistake... See if you can find it!

Juan found it! (see image below)



Calculator

Reading Assignment

0 points possible (ungraded)
Read Unit 3.4.2 of the notes. [LINK]

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? Solutions
Hi, Where can I find the solution to the homework algorithm? 3

Homework 3.4.2.1

1/1 point (graded)
Implement the function

```
function [ y_out ] = Mvmult_n_unb_var2( A, x, y )
```

that corresponds to the algorithm

Algorithm: $y := \text{MVMULT\_N\_UNB\_VAR2}(A, x, y)$

Partition $A \rightarrow \left(A_L \middle| A_R\right)$, $x \rightarrow \left(\frac{x_T}{x_B}\right)$

where A_L is $m \times 0$ and x_T is 0×1

while $m(x_T) < m(x)$ **do**

Repartition

$$\left(A_L \middle| A_R\right) \rightarrow \left(A_0 \middle| a_1 \middle| A_2\right), \left(\frac{x_T}{x_B}\right) \rightarrow \left(\frac{x_0}{\chi_1}{x_2}\right)$$

where a_1 is a column

$y := \chi_1 a_1 + y$

Continue with

$$\left(A_L \middle| A_R\right) \leftarrow \left(A_0 \middle| a_1 \middle| A_2\right), \left(\frac{x_T}{x_B}\right) \leftarrow \left(\frac{x_0}{\chi_1}{x_2}\right)$$

endwhile

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`)

☑ Done/Skip

Calculator

✔

Answer:

- View a document that we put together that has most algorithms and MATLAB implementations that are homework problems in this week:

  Week 3 algorithms and implementations .

  This document is best viewed two pages, side by side, so that you can see the algorithm on the left and its implementation on the right.

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