DAILY ASSESSMENT REPORT

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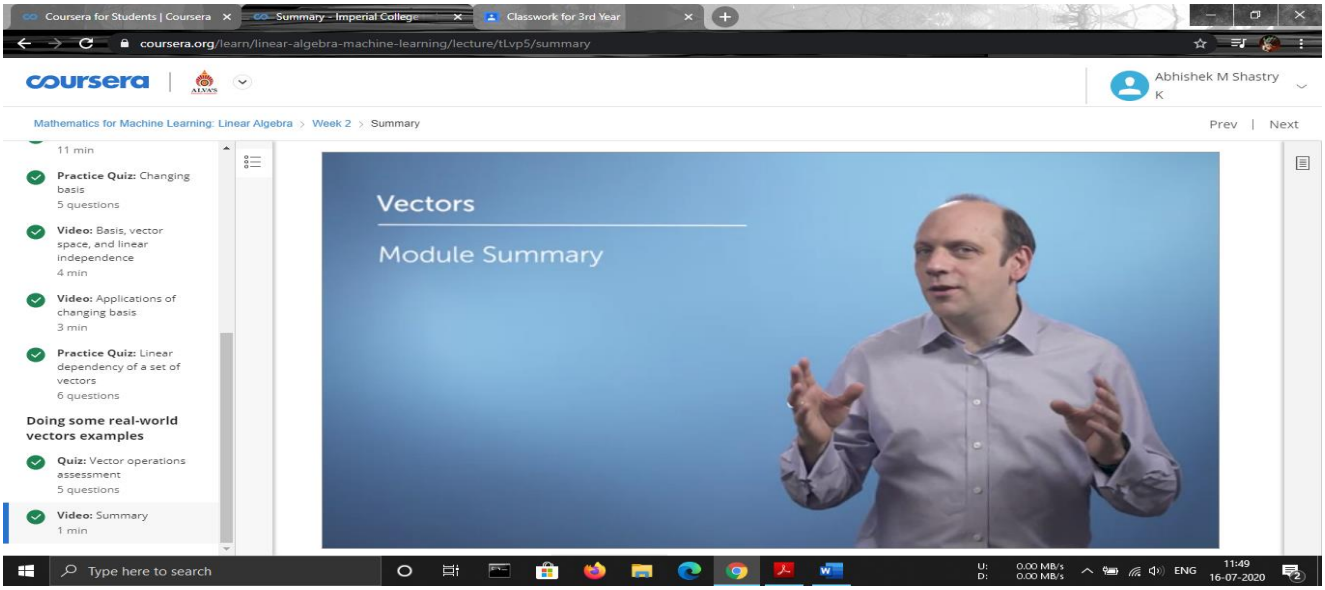
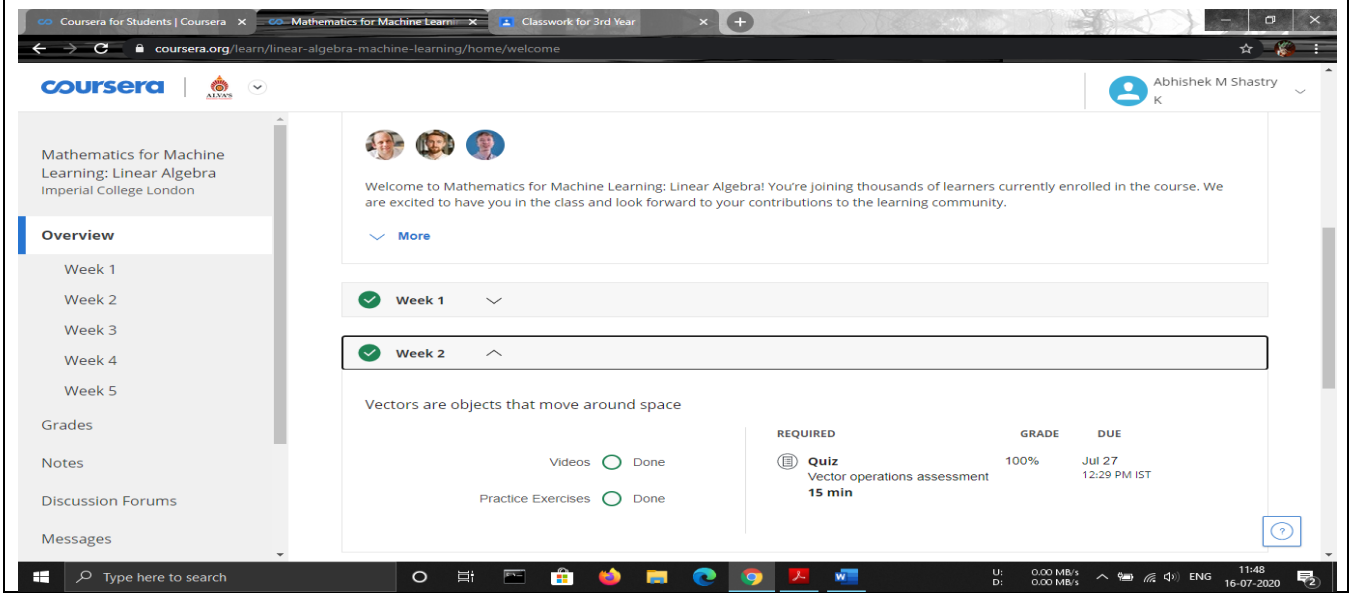
Course:	Mathematics for Machine Learning: Linear Algebra	USN:	4AL17EC002
Topic:	Week 2	Semester & Section:	6th 'A'
Github Repository:	AbhishekShastry-Courses		

SESSION DETAILS

Image of session





Report

Week 2

- Let's just take a moment to think about what we've done in this module because you've worked quite hard. And if all this is completely new to you, you've had to think about a lot of new ideas. We've looked at vectors as being objects that describe where we are in space which could be a physical space, a space of data, or a parameter space of the parameters of a function.
- It doesn't really matter. It's just some space. Then we've defined vector addition and scaling a vector by a number, making it bigger or reversing its direction. Then we've gone on to find the magnitude or modulus of a vector, and the dot scalar and vector projection product.
- We've defined the basis of a vector space, its dimension, and the ideas of linear independence and linear combinations. We've used projections to look at one case of changes from one basis to another, for the case where the new basis is orthogonal.
- So, we've done a lot of stuff with vectors and along the way, we've done a bit of thinking about how this will apply to working with data. So hopefully, that's been really useful. And you've enjoyed giving it all a workout in the exercises and activities. And I'll see you in the next modules, where we'll move on to think about the related idea of matrices.
- **Key Concepts**
    - ✓ Calculate basic operations (dot product, modulus, negation) on vectors.
    - ✓ Calculate a change of basis.
    - ✓ Recall linear independence.
    - ✓ Identify a linearly independent basis and relate this to the dimensionality of the space.