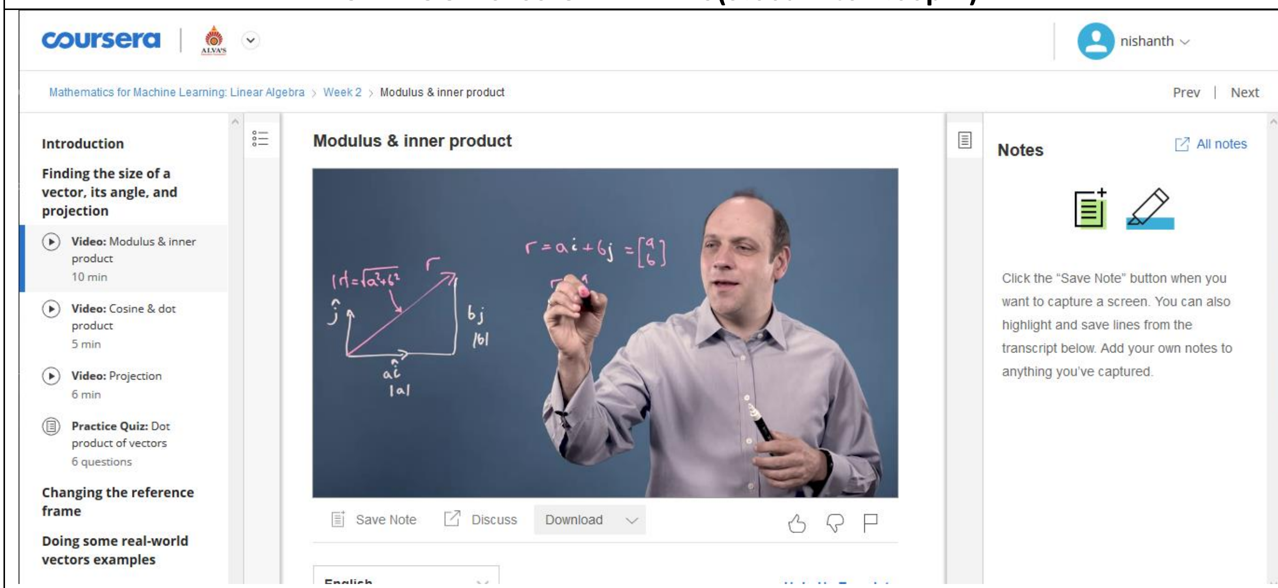
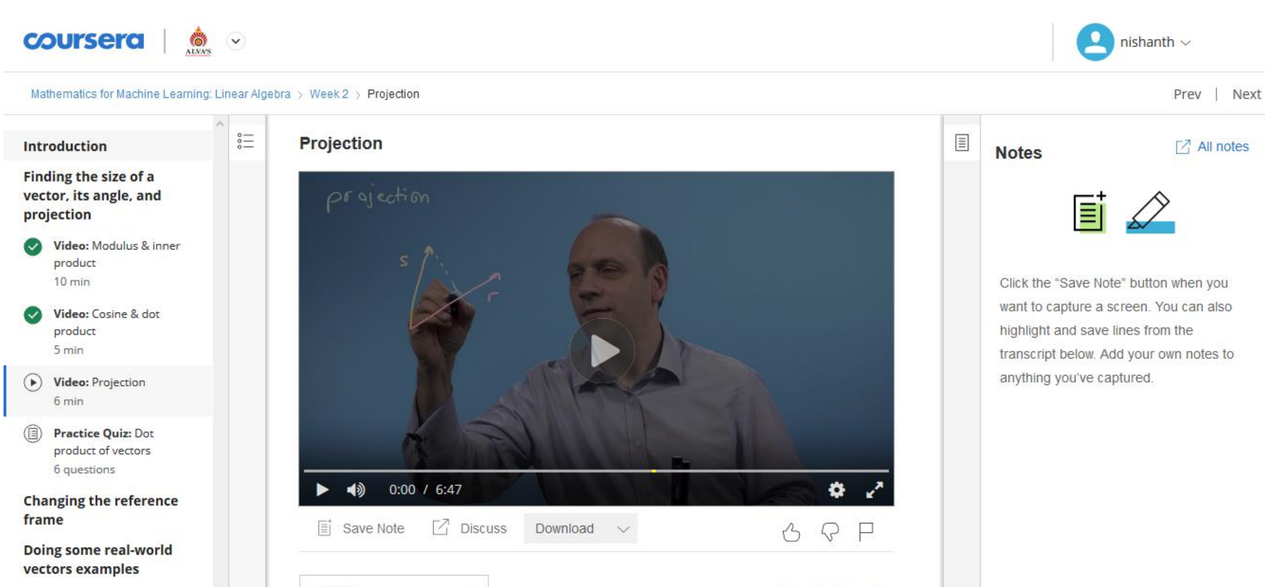
DAILY ASSESSMENT FORMAT

Date:	**14-07-2020**	**Name:**	**Nishanth v r**
Course:	Coursera	**USN:**	**4AL17EC063**
Topic:	**Mathematics for Machine Learning: Linear Algebra**	**Semester & Section:**	**6th b**
Github Repository:	**nishanthvr**		

FORENOON SESSION DETAILS(9.00am to 1.00pm)





Cosine and Dot product :

Algebraically, the **dot product** is the sum of the **products** of the corresponding entries of the two sequences of numbers. Geometrically, it is the **product** of the Euclidean magnitudes of the two vectors and the **cosine** of the angle between them.

In mathematics, the dot product or scalar product is an algebraic operation that takes two equal-length sequences of numbers and returns a single number.

These definitions are equivalent when using Cartesian coordinates. In modern geometry, Euclidean spaces are often defined by using vector spaces. In this case, the dot product is used for defining lengths (the length of a vector is the square root of the dot product of the vector by itself) and angles (the cosine of the angle of two vectors is the quotient of their dot product by the product of their lengths).

The dot product may be defined algebraically or geometrically. The geometric definition is based on the notions of angle and distance (magnitude of vectors). The equivalence of these two definitions relies on having a Cartesian coordinate system for Euclidean space.

In modern presentations of Euclidean geometry, the points of space are defined in terms of their Cartesian coordinates, and Euclidean space itself is commonly identified with the real coordinate space $\mathbf{R}^n$. In such a presentation, the notions of length and angles are defined by means of the dot product. The length of a vector is defined as the square root of the dot product of the vector by itself, and the cosine of the (non oriented) angle of two vectors of length one is defined as their dot product. So the equivalence of the two definitions of the dot product is a part of the equivalence of the classical and the modern formulations of Euclidean geometry.

The distance is covered along one axis or in the direction of force and there is no need of perpendicular axis or sin theta. In cross **product** the angle between must be greater than 0 and less than 180 degree it is max at 90 degree. ... That's why we use **cos** theta for **dot product** and sin theta for cross **product**.

Proof of the **Law of Cosines**. The easiest way to prove this is by using the concepts of **vector** and **dot product**. In general the **dot product** of two vectors is the **product** of the lengths of their line segments times the **cosine** of the angle between them.

An important use of the **dot product** is to test whether or not two vectors are orthogonal. Two vectors are orthogonal if the angle between them is 90 degrees. ... Thus, two non-zero vectors have **dot product** zero if and only if they are orthogonal.

Dot products are very geometrical objects. They actually encode relative information about vectors, specifically they tell us "how much" one vector is in the direction of another. Particularly, the **dot product** can tell us if two vectors are (anti)parallel or if they are perpendicular.

A **dot product** of two vectors is the **product** of their lengths times the cosine of the angle between them. If the **dot product** is **0**, then either the length of one or both is **0**, or the angle between them is 90 degrees.

The **dot product** as **projection**. The **dot product** of the vectors a (in blue) and b (in green), when divided by the magnitude of b, is the **projection** of a onto b.

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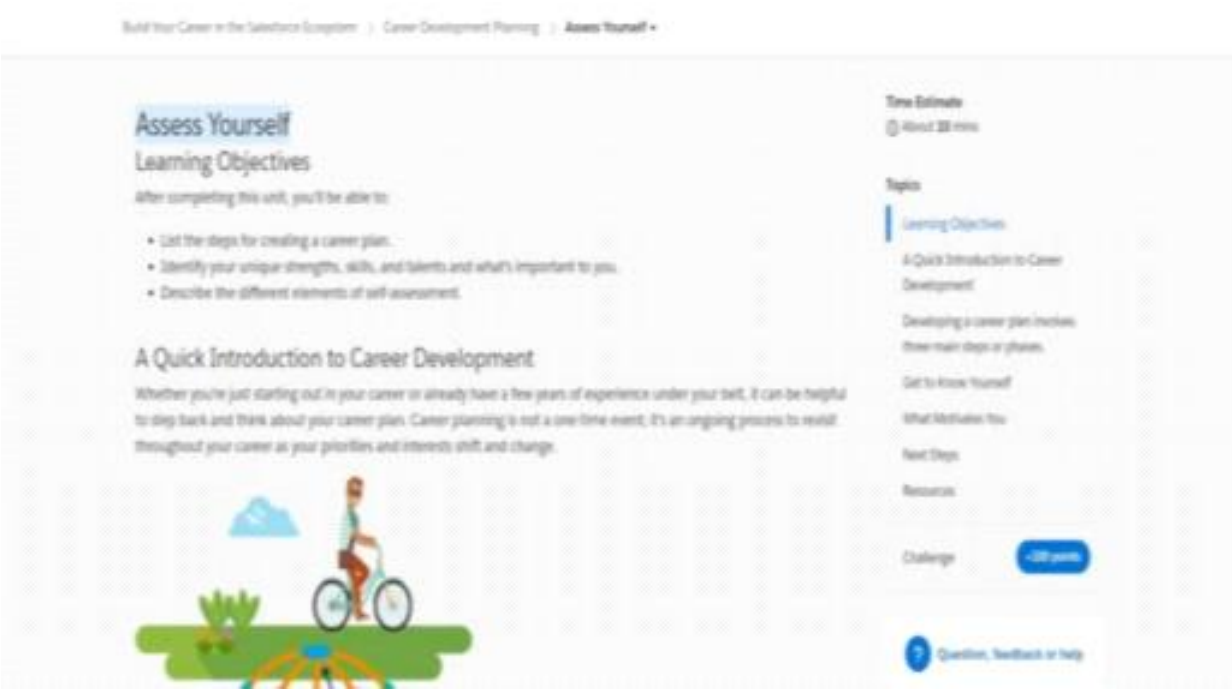
Github Repository:	**Nishanthvr**		

image of session



Whether you're just starting out in your career or already have a few years of experience under your belt, it can be helpful to step back and think about your career plan. Career planning is not a onetime event; it's an ongoing process to revisit throughout your career as your priorities and interests shift and change.There are various directions you can explore: up, down, and sideways. When you're clear about your career goals, you can choose the options that are the best fit. Then it's time to get ready for new experiences or new roles.The career development process can be helpful to revisit when you're thinking about switching careers or applying your existing experience to work in a new field. Or maybe you're returning to work after a period outof the workforce.You can use these three simple steps to plan your career.Discover. Get to know yourself, including your motivations, experiences you want,
skills to build, and career goals to achieve. Research and explore opportunities and career paths that interest you and that may not have considered before.Plan. Identify a goal and any skills you need

to build or to reach that goal. Lay out a plan of how you will achieve that goal. Act.Take action on your plan. Identify how to get connected to employers and mentors that can help you. Prepare your resume and social media presence to land that dream job. The first step in managing your career is to get a clear picture of who you are and what you want.Knowing what motivates you and what matters in your life

Identifying your strengths and opportunities to improve Finding out what you're most interested in What we want can change over time our priorities change, we can discover new interestsor skills that we want to develop and learn. This is an opportunity to check in and see where you are today. There are many free self assessment tools out there to help you identify your own values, skills, and interests. We've provided links to a few of them in the resources section. You may want to start by exploring some of these tools. We've also provided a Career Exploration Resources pack with worksheets to guide

you through each step of career development process. We recommend downloading it and finding a quiet place where you can work through it.Think about that day you left work or school thinking "Wow, that was a great day!"Do you remember what was happening? Whatever it was, you were probably doing something that you found motivating and energizing.

Once you've completed your selfassessment, review your results and identify any themes that emerge. It can be helpful to talk over your results with a friend or family member.