

DAILY ASSESSMENT FORMAT

Date:	14th July 2020	Name:	Rajeshwari Gadagi
Course:	coursera	USN:	4AL17EC076
Topic:	Mathematics for machine learning:Linear Algebra	Semester & Section:	6th sem 'B' sec
Github Repository:	Rajeshwari-gadagi		

FORENOON SESSION DETAILS

Image of session

commutative $r \cdot s = r_i s_i + r_j s_j$
 $= 3 \cdot 1 + 2 \cdot 2$
 $= 1$
 $= s \cdot r$

$s = \begin{bmatrix} -1 \\ 2 \end{bmatrix} = \begin{bmatrix} s_i \\ s_j \end{bmatrix}$

$r = \begin{bmatrix} 3 \\ 2 \end{bmatrix} = \begin{bmatrix} r_i \\ r_j \end{bmatrix}$

distributive over addition
 $r \cdot (s+t) = r \cdot s + r \cdot t$

$r = \begin{bmatrix} r_1 \\ r_2 \\ \vdots \\ r_n \end{bmatrix}$ $s = \begin{bmatrix} s_1 \\ s_2 \\ \vdots \\ s_n \end{bmatrix}$ $t = \begin{bmatrix} t_1 \\ t_2 \\ \vdots \\ t_n \end{bmatrix}$

$r \cdot (s+t) = r_1 (s_1+t_1) + r_2 (s_2+t_2) + \dots + r_n (s_n+t_n)$
 $= r_1 s_1 + r_1 t_1 + r_2 s_2 + r_2 t_2 + \dots + r_n s_n + r_n t_n$
 $= r \cdot s$

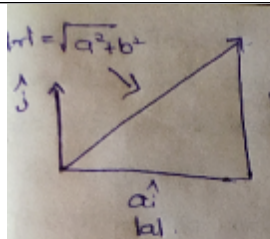
cosine rule
 $c^2 = a^2 + b^2 - 2ab \cos \theta$

$|r-s|^2 = |r|^2 + |s|^2 - 2|r||s| \cos \theta$

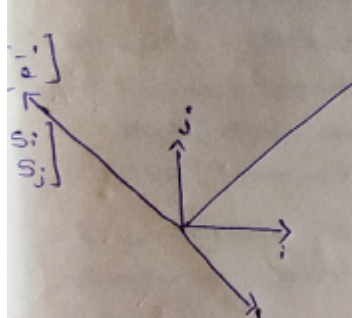
$(r-s) \cdot (r-s) = r \cdot r - s \cdot r - s \cdot r - s \cdot s$
 $= |r|^2 - 2s \cdot r + |s|^2$

$+ 2s \cdot r = + 2|r||s| \cos \theta$

$r \cdot s = |r||s| \cos \theta$

$|r| = \sqrt{a^2 + b^2}$


$r = a\hat{i} + b\hat{j} = \begin{bmatrix} a \\ b \end{bmatrix}$
 $r = \begin{bmatrix} a \\ b \end{bmatrix}$
 $|r| = \sqrt{a^2 + b^2}$



$r = \begin{bmatrix} r_1 \\ r_2 \end{bmatrix} = \begin{bmatrix} 3 \\ 2 \end{bmatrix}$
 $r \cdot s = r_1 s_1 + r_2 s_2$ [dot product]
 $= 3 \times -1 + 2 \times 2$
 $r \cdot s = 1$
 distributive
 $r \cdot (s + t) = r \cdot s + r \cdot t$

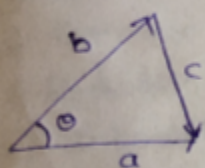
$r = \begin{bmatrix} r_1 \\ r_2 \\ \vdots \\ r_n \end{bmatrix}$ $s = \begin{bmatrix} s_1 \\ s_2 \\ \vdots \\ s_n \end{bmatrix}$ $t = \begin{bmatrix} t_1 \\ t_2 \\ \vdots \\ t_n \end{bmatrix}$
 $r \cdot (s + t) = r_1(s_1 + t_1) + r_2(s_2 + t_2) + \dots + r_n(s_n + t_n)$

Associative:

$$r \cdot (as) = a(r \cdot s)$$

$$r_1(as_1) + r_2(as_2) = a(r_1s_1 + r_2s_2) = a(r \cdot s)$$

Cosine & dot product:



Cosine rule.

$$c^2 = a^2 + b^2 - 2ab \cos \theta$$

$$|r-s|^2 = |r|^2 + |s|^2 - 2|r||s|\cos \theta$$

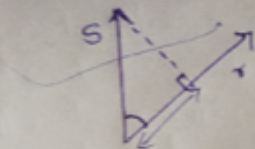
$$(r-s) \cdot (r-s) = r \cdot r - s \cdot r - s \cdot r + s \cdot s$$

$$= |r|^2 - 2s \cdot r + |s|^2$$

$$-2s \cdot r = -2|r||s|\cos \theta$$

$$r \cdot s = |r||s|\cos \theta$$

Projection :-



$$\cos \theta = \frac{\text{adj}}{\text{hyp}} = \frac{\text{adj}}{|s|}$$

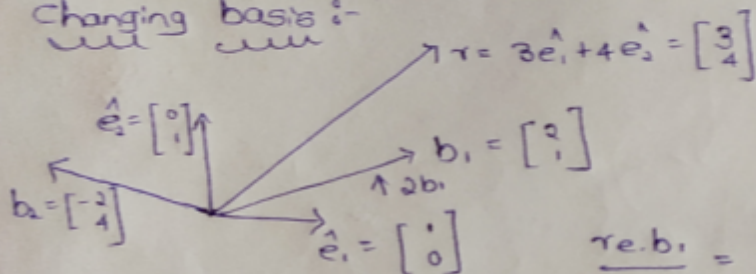
$$r \cdot s = |r| |s| \cos \theta$$

adj
|r| x Projection

$$\frac{r \cdot s}{|r|} = |s| \cos \theta \quad \text{Scalar projection}$$

Vector projection $\frac{r \cdot s}{|r| |s|} = \frac{r \cdot s}{s \cdot r}$

Changing basis :-



$$\cos \theta = \frac{b_1 \cdot b_2}{|b_1| |b_2|}$$

$$\frac{r \cdot b_1}{|b_1|^2} = \frac{3 \times 2 + 4 \times 1}{2^2 + 1}$$

$$\frac{r \cdot b_1}{|b_1|^2} b_1 = 2 \begin{bmatrix} 2 \\ 1 \end{bmatrix}$$

$$|b_1| |b_2|$$

$$b_1 \cdot b_2 = 2 \times -2 + 1 \times 4 = 0$$

$$\frac{r \cdot b_1}{|b_1|^2} b_1 = 2 \begin{bmatrix} 2 \\ 1 \end{bmatrix}$$

$$\frac{r \cdot b_2}{|b_2|^2} = \frac{3 \times -2 + 4 \times 4}{(-2)^2 + (4)^2}$$

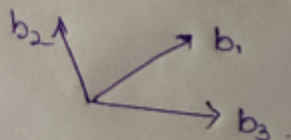
$$\frac{r \cdot b_2}{|b_2|^2} b_2 = \frac{1}{2} \begin{bmatrix} -2 \\ 4 \end{bmatrix}$$

Basis application :-

Basis is a set of n vectors that :-

- i) are not linear combinations of each other (linearly independent)
- ii) span the space.

The space is then n-dimensional.



$$b_3 \neq a_1 b_1 + a_2 b_2$$

linearly independent

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AFTERNOON SESSION DETAILS

image of session

Build Your Career in the Salesforce Ecosystem > Career Development Planning > Assess Yourself

Assess Yourself


Learning Objectives

After completing this unit, you'll be able to:

- List the steps for creating a career plan.
- Identify your unique strengths, skills, and talents and what's important to you.
- Describe the different elements of self-assessment.

A Quick Introduction to Career Development

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 one-time event; it's an ongoing process to revisit throughout your career as your priorities and interests shift and change.



Time Estimate
⌚ About 20 mins

Topics

- Learning Objectives
- A Quick Introduction to Career Development
- Developing a career plan involves three main steps or phases.
- Get to Know Yourself
- What Motivates You
- Next Steps
- Resources

Challenge [+50 points](#)

[Question, feedback or help](#)

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 out of 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 interests or 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 self assessment, review your results and identify any themes that emerge. It can be helpful to talk over your results with a friend or family member.

