Appointment | Notes | Work to do

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- Coursera:

Summation Convention and the symmetry of the dot product.

$$(ab)_{23} = a_{21}b_{13} + a_{22}b_{23} + \dots + a_{2n}b_{n3}$$

$$ab_{jk} = \sum_j a_{ij} b_{jk} = a_{ij} b_{jk}$$

$$AB = C$$

$$C_{ik} = a_{ij} b_{jk}$$

$$\begin{array}{cc} U & V \\ \begin{bmatrix} U_i \end{bmatrix} \cdot & \begin{bmatrix} V_i \end{bmatrix} \end{array} \quad \begin{bmatrix} U_1 U_2 \dots U_n \end{bmatrix} \begin{bmatrix} V_1 \\ V_2 \\ \vdots \\ V_n \end{bmatrix}$$

$$U_i V_i$$

- Changing of basis:

Bear's basis vectors $\begin{bmatrix} 3 \\ 1 \end{bmatrix}, \begin{bmatrix} 1 \\ 1 \end{bmatrix}$ in my fame.

$$\begin{bmatrix} 3 & 1 \\ 1 & 1 \end{bmatrix} \begin{bmatrix} 3/2 \\ 1/2 \end{bmatrix} = \begin{bmatrix} 5 \\ 2 \end{bmatrix}$$

Bear's basis in my code | Bear's vector | my vector

B
B^{-1}

$$\frac{1}{2} \begin{bmatrix} 1 & -1 \\ -1 & 3 \end{bmatrix} \begin{bmatrix} 5 \\ 2 \end{bmatrix} = 5 \begin{bmatrix} 1/2 \\ -1/2 \end{bmatrix} + 2 \begin{bmatrix} -1 \\ 3 \end{bmatrix} = \frac{1}{2} \begin{bmatrix} 3 \\ 2 \end{bmatrix}$$

my basis in bear's world. Bear's vector.

$A_{n \times n}$

$$B^{-1} R B = R_B$$

$$A^T_{ij} = A_{ji}$$

$$\left(\begin{pmatrix} a_1 \end{pmatrix} \begin{pmatrix} a_2 \end{pmatrix} \dots \begin{pmatrix} a_3 \end{pmatrix} \right)$$

$a_i \cdot a_j = 0 \quad i \neq j$

$a_i \cdot a_j = 1 \quad i = j$

$A^T = A^{-1}$

$A^T A = I$

· Reflecting in a plane:

$$\begin{bmatrix}1\\1\\1\end{bmatrix} \quad \begin{bmatrix}2\\0\\1\end{bmatrix} \quad \begin{bmatrix}3\\1\\-1\end{bmatrix}$$

$$v_1 \qquad v_2 \qquad v_3$$

$$e_1 = \frac{v_1}{|v_1|} = \frac{1}{\sqrt{3}}\begin{bmatrix}1\\1\\1\end{bmatrix}$$

$$v_2 = v_2 - (v_2 \cdot e_1)e_1 = \begin{bmatrix}2\\0\\1\end{bmatrix} - \left[\begin{pmatrix}2\\0\\1\end{pmatrix} \cdot \frac{1}{\sqrt{3}}\begin{pmatrix}1\\1\\1\end{pmatrix}\right] \frac{1}{\sqrt{3}}\begin{pmatrix}1\\1\\1\end{pmatrix}$$

$$e_2 = \frac{v_2}{|v_2|} = \frac{1}{\sqrt{2}}\begin{bmatrix}1\\-1\\0\end{bmatrix} = \begin{bmatrix}2\\0\\1\end{bmatrix} - \frac{1}{3}\times 3\begin{bmatrix}1\\1\\1\end{bmatrix} = \begin{bmatrix}1\\-1\\0\end{bmatrix}$$

$$v_3 = v_3 - (v_3 \cdot e_1)e_1 - (v_3 \cdot e_2)e_2 = \begin{pmatrix}3\\1\\-1\end{pmatrix} - \left[\begin{pmatrix}3\\1\\-1\end{pmatrix} \cdot \frac{1}{\sqrt{3}}\begin{pmatrix}1\\1\\1\end{pmatrix}\right]\left(\frac{1}{\sqrt{3}}\begin{pmatrix}1\\1\\1\end{pmatrix}\right)$$

$$\begin{array}{ccc} \boxed{r} & \xrightarrow{\text{read}} & \boxed{r'} \\ \Big\downarrow E^{-1} & & \Big\uparrow E \\ \boxed{r_E} & \xrightarrow{T_E} & \boxed{r_E'} \end{array}$$

$$r' = E T_E E^{-1} r$$

$$E^T = E^{-1}$$

$$E T_E E^T = \frac{1}{3}\begin{bmatrix}2 & -1 & 2\\-1 & 2 & 2\\2 & 2 & -1\end{bmatrix} = T$$

· Gram - Schmidt:

$$V = \{v_1, v_2, \ldots, v_n\}$$

$$e_1 = \frac{v_1}{|v_1|}$$

$$v_2 = (v_2 \cdot e_1)\frac{e_1}{|e_1|}$$

$$v_3 - (v_3 \cdot e_1)e_1 - (v_3 \cdot e_2)e_2$$

Appointment Notes Work to do

· Salesforce :

→ Use data to data 360° view of yours customers.
* collecting information is a team sport.

→ Make it easy
→ Make it a cultural form.
→ Make it required.

* The technology advantage.

→ Resources:
* Develop a data leaked account management strategy learning objectives:

→ Use the data to derive your strategy.
→ CRM for ligating experience.
* Navigate setup.

→ Items and apps for efficient Navigation.

* Get started with the salesforce platform.
* power up with app exchange.

→ Manage fund rising, programmes and engagement with non profit clod.

→ Get your trailhead playground user-name and password.