

Background

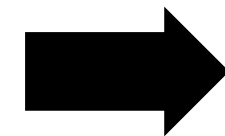
(Linear Algebra, Jacobian Matrix)

- Linear Transformation / Affine Transformation
Affine \sim = Linear \sim + shifting(translation)

선형변환이 들어가니까

- change of variable

$$\frac{dz}{dt} = \frac{\partial z}{\partial x} \frac{dx}{dt} + \frac{\partial z}{\partial y} \frac{dy}{dt}$$



$$dz = \frac{\partial z}{\partial x} dx + \frac{\partial z}{\partial y} dy$$

계산할 때 필요하니까

- Jacobian matrix

비선형변환 => 선형변환

행렬의 역변환 하니까

Background

(Linear Algebra, Jacobian Matrix)

참고자료(kr)

<https://hooni-playground.com/1271/>

https://angeloyeo.github.io/2019/07/15/Matrix_as_Linear_Transformation.html

- Linear Transformation / Affine Transformation
Affine \sim = Linear \sim + shifting(translation, bias)

$$A = \begin{bmatrix} 2 & -3 \\ 1 & 1 \end{bmatrix} \quad \vec{x} = \begin{bmatrix} 1 \\ 1 \end{bmatrix}$$

$$A\vec{x} = \begin{bmatrix} 2 & -3 \\ 1 & 1 \end{bmatrix} \begin{bmatrix} 1 \\ 1 \end{bmatrix} = \begin{bmatrix} -1 \\ 2 \end{bmatrix}$$

$$A\vec{x} + b$$

(since it has offset, it is non-linear transformation)

- * shearing
- * rotation
- * permutation
- * projection on \sim

