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ASSIGNMENT 1- DATE: 26-11-2024

1)INNER AND OUTER PRODUCT

--> INNER PRODUCT: also called as dot product, result is a scalar, measures the relation between two vectors on how much they point in the same direction. If dot product is big then the angle b/w the vectors is small viceversa. NOTE: if vectors are perpendicular then inner product=0.

function: .inner()

--> OUTER PRODUCT: also called as cross product, result is a matrix (matrix multiplication), gives the vector which perpendicular to both the vectors. function: .outer()

2) NORMS

* returns the length of a vector (only +ve)
* function: .norm()
* conditions for norm: positivity, homogeneity, triangle inequality
* 1-norm (or) taxicab norm

||x||1 = summation of |xi|

* 2-norm (or) euclidean norm

||x||2 root of summation of |xi|2

* Infinite norm (or) max norm

||x||∞ = max|xi|