**DAILY ASSESSMENT FORMAT**

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| **Date:** | **14-07-2020** | **Name:** | **Kavya M M** |
| **Course:** | **Coursera** | **USN:** | **4AL17EC040** |
| **Topic:** | **Mathematics for machine learning: Linear algebra** | **Semester & Section:** | **6th A** |
| **Github Repository:** | **Kavya\_ECE040** |  |  |

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| **FORENOON SESSION DETAILS** |
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| Thedotproductmaybedefinedalgebraicallyorgeometrically.Thegeometricdefinition  Is based on the notions of angle and distance (magnitude of vectors). The equivalence of the set wo definitions relies on having a Cartesian coordinate system for Euclidean space.  In such a presentation, the notion 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 for mutations 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 than180 degree it is max at 90degree....That's why we use cost het a for dot Product and sin theta for cross product.  An important use of the dot product is 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. 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. |