VECTOR ALGEBRA

A quantity that has both magnitude as well as direction is called a vector.

Types of vectors

- **Zero vector:** A vector of zero magnitude.
- **Unit vector:** A vector whose magnitude is unity.
- **Co-initial vectors:** Two or more vectors having the same initial point.
- **Collinear vectors:** If two vectors are parallel to the same line, irrespective of their magnitudes and direction.
- **Equal vectors:** Two vectors having same magnitude and direction, regardless of the positions of their initial points.
- **Negative of a vector:** A vector having same magnitude but opposite direction.

Position Vector

Consider a point P in space, having coordinates (x, y, z) with respect to the origin O(0,0,0). Then, the vector $\overrightarrow{OP}$ having O and P as its initial and terminal points, respectively, is called the position vector of the point P with respect to O.