

# Undergraduate Statistics Review

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# Chapter 1

## Notation Convention

### 1.1 Vectors in n dimensional space

A n-dimensional Euclidean space  $R^n$  is a natural extension of 2 dimensional Euclidean plane and 3 dimensional Euclidean space. An n-dimensional vector is represented as a row vector or column vector by  $\mathbf{a} = (a_1, \dots, a_n)$  or  $\mathbf{a}$ . We use  $\Sigma$  to denote summation over different values.