Wave function $\Psi(r)$

$$|\Psi\rangle = \sum_{n=1}^{N} C_n |\hat{\Psi}_n\rangle$$

where $|\Psi\rangle$ is called state vector (态矢)

$|\hat{\Psi}_n\rangle$ is basis vector

$|\Psi\rangle$ is a vector consist of eigenstate (本征/特征态)

C_n can be rewritten as vector $|C\rangle = \begin{bmatrix} C_1 \\ \vdots \\ C_n \end{bmatrix}$

In Dirac bracket $|C\rangle = \begin{bmatrix} C_1 \\ \vdots \\ C_n \end{bmatrix}$ is called ket (右矢)

$\langle C| = [\, C_1^* \cdots C_n^* \,]$ is called bra (左矢)