

$$c_{11} = a_{11}b_{11} + a_{12}b_{12} + \dots + a_{1m}b_{m1}$$

$$\begin{bmatrix} c_{11} & c_{12} & \dots & c_{1p} \\ c_{21} & c_{22} & \dots & c_{2p} \\ \text{---} & \text{---} & \text{---} & \text{---} \\ c_{n1} & c_{n2} & \dots & c_{np} \end{bmatrix} = \begin{bmatrix} a_{11} & a_{12} & \dots & a_{1p} \\ a_{21} & a_{22} & \dots & a_{2p} \\ \text{---} & \text{---} & \text{---} & \text{---} \\ a_{n1} & a_{n2} & \dots & a_{np} \end{bmatrix} \begin{bmatrix} b_{11} & b_{12} & \dots & b_{1p} \\ b_{21} & b_{22} & \dots & b_{2p} \\ \text{---} & \text{---} & \text{---} & \text{---} \\ b_{n1} & b_{n2} & \dots & b_{np} \end{bmatrix}$$

$$c_{12} = a_{11}b_{12} + a_{12}b_{22} + \dots + a_{1m}b_{m2}$$

$$c_{1p} = a_{11}b_{1p} + a_{12}b_{2p} + \dots + a_{1m}b_{mp}$$

$$c_{21} = a_{21}b_{11} + a_{22}b_{21} + \dots + a_{2m}b_{m1}$$

$$c_{np} = a_{n1}b_{1p} + a_{n2}b_{2p} + \dots + a_{nm}b_{mp}$$