

# Deadlock Detection

## Several Instances of a Resource Type

$$E = \begin{pmatrix} 4 & 2 & 3 & 1 \end{pmatrix}$$

Tape drives   Plotters   Scanners   CD Roms

$$A = \begin{pmatrix} 2 & 1 & 0 & 0 \end{pmatrix}$$

Tape drives   Plotters   Scanners   CD Roms

Current allocation matrix

$$C = \begin{bmatrix} 0 & 0 & 1 & 0 \\ 2 & 0 & 0 & 1 \\ 0 & 1 & 2 & 0 \end{bmatrix}$$

Request matrix

$$R = \begin{bmatrix} 2 & 0 & 0 & 1 \\ 1 & 0 & 1 & 0 \\ 2 & 1 & 0 & 0 \end{bmatrix}$$

Row n:

C: current allocation to process n

R: current requirement of process n

Column m:

C: current allocation of resource class m

R: current requirement of resource class m