## Lecture 6: Worksheet

Which of the three cases do we have? We see matrices close to $\text{rref}(B)$, where $B = [A, b]$ is the augmented matrix of a system $Ax = b$.

**1**

$$\begin{bmatrix} 1 & 0 & 0 & | & 0 \\ 0 & 1 & 0 & | & 0 \\ 0 & 0 & 1 & | & 0 \\ 0 & 0 & 0 & | & 1 \end{bmatrix}$$

**2**

$$\begin{bmatrix} 1 & 0 & 0 & | & 4 \\ 0 & 1 & 7 & | & 3 \end{bmatrix}$$

**3**

$$\begin{bmatrix} 1 & 0 & 0 & | & 4 \\ 0 & 1 & 0 & | & 3 \\ 0 & 0 & 1 & | & 1 \\ 0 & 0 & 0 & | & 0 \end{bmatrix}$$

**4**

$$\begin{bmatrix} 1 & 2 & 3 & | & 4 \end{bmatrix}$$

**5**

$$\begin{bmatrix} 1 & 0 & 0 & | & 1 \\ 0 & 1 & 0 & | & 1 \\ 0 & 0 & 1 & | & 1 \\ 0 & 0 & 0 & | & 0 \\ 0 & 0 & 0 & | & 0 \\ 0 & 0 & 0 & | & 0 \end{bmatrix}$$

**6**

$$\begin{bmatrix} 1 & 0 & 0 & | & 1 \\ 0 & 0 & 0 & | & 1 \\ 0 & 0 & 1 & | & 1 \\ 0 & 0 & 0 & | & 0 \\ 0 & 0 & 0 & | & 0 \\ 0 & 0 & 0 & | & 0 \end{bmatrix}$$

**7**

$$\begin{bmatrix} 1 & 0 & 0 & | & 0 \\ 0 & 0 & 0 & | & 1 \end{bmatrix}$$

**8**

$$\begin{bmatrix} 1 & 0 & 0 & | & 1 \\ 0 & 0 & 1 & | & 0 \end{bmatrix}$$

**9**

$$\begin{bmatrix} 1 & 0 & | & 1 \\ 0 & 1 & | & 2 \\ 0 & 0 & | & 1 \\ 0 & 0 & | & 0 \\ 0 & 0 & | & 0 \\ 0 & 0 & | & 0 \\ 0 & 0 & | & 0 \end{bmatrix}$$

**10**

$$\begin{bmatrix} 1 & | & 1 \\ 0 & | & 2 \\ 0 & | & 7 \end{bmatrix}$$