

Solving Systems as Matrices

How does this look with matrices?

Observation. Each intermediate step of elimination and back-substitution gives us a new linear system with the same solutions

Can we represent these intermediate steps as
operations on matrices?

Solving Systems as Matrices

How does this look with matrices?

Observation. Each intermediate step of elimination and back-substitution gives us a new linear system with the same solutions

Can we represent these intermediate steps as operations on matrices?

Elementary Row Operations

scaling	multiply a row by a number
interchange	switch two rows
replacement	add two rows (and replace one with the sum)