

Introduction to Week Three

Gaussian Elimination

Operation Counts

- ✓

**Video:** Operation Counts | Lecture 27  
9 min
- ✓

**Reading:** Estimating Computational Time using Operation Counts  
5 min
- ▶

**Video:** Operation Counts for Gaussian Elimination | Lecture 28  
8 min
- 📖

**Reading:** Summation Identities  
10 min
- ▶

**Video:** Operation Counts for Forward and Backward Substitution | Lecture 29  
6 min
- 📖

**Reading:** Operation Counts for a Lower Triangular System  
10 min

Eigenvalues and Eigenvectors

Matrix Algebra in MATLAB

Systems of Nonlinear Equations

Quiz

Programming Assignment:  
Fractals from the Lorenz  
Equations

# Estimating Computational Time using Operation Counts

A genetic model of recombination is solved using a computational algorithm that scales like  $O(3^L)$ , where  $L$  is the number of loci modeled. If it takes 10 sec to compute recombination when  $L = 15$ , estimate how long it takes to compute recombination when  $L = 16$ .

✓ **Completed**      **Go to next item**

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