

Handbook

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Part I

Math

1 Linear Algebra

1.1 Matrix foundations

This section will cover:

- Matrix operations (addition/subtraction, multiplication, transpose, inverse)
- Gauss-Jordan elimination
- Notable matrices (identity, diagonal)

1.1.1 Basic Matrix Operations

1.2 Eigenvalues and eigenvectors

2 Calculus

2.1 Derivative and integral foundations

2.2 Multivariable Topics

3 Probability

3.1 Probability foundations

3.2 Markov Chains

3.3 Renewal Processes

Part II

Computer Science

4 Object Oriented Programming

This section will mostly be covered in Java, with analogies drawn to Python. This section will cover:

- Scope and encapsulation
- Polymorphism

4.1 Java foundations

```
class MyClass{  
    private int x = 123;  
  
    public MyClass(int a) {  
        ...  
    }  
}
```

wtf? hello

4.2 Scope & Encapsulation

5 Data Structures & Algorithms

6 Machine Learning

Part III

Finance

7 Fixed Income