

Contents

Introduction

Optional Introductory Non-Examinable Project

0.1 **Root Finding in One Dimension**

Core Projects

1.1 **Matrices over Finite Fields**

1.2 **Ordinary Differential Equations**

Additional Projects

2.1 **The Diffusion Equation**

2.2 **Schrödinger's Equation**

2.3 **Non-Euclidean Geometry**

2.4 **Simulation of Random Samples from Parametric Distributions**

For maximum credit, you should attempt both projects from section 1 (*Core Projects* above), and then two additional projects chosen from section 2 (*Additional Projects*). You may not attempt more than two additional projects. All projects carry equal credit.