Final Project Description and Ideas - Math 448

Goal:
The goal of the final project and presentation is to give he the time to explore and apply some of the ideas from this course in depth and in an area of your interest.

Minimum requirements for final project and presentation:
The project and preparation of the presentation should take up the remained of the course time for this semester (25-30 hours of work). You must submit **three** parts of you final project.

1. Well documented Mathematica file that is you project.

2. 8-10 minute presentation on you project during the last week of class.

3. 3 page project report

Project Ideas:
1. Something you'd like to try and explore. Pitch me an idea of appropriate scope, and I likely say go for it. It can be related to other course, or merely something your curious about. Go for it!

2. If one of your course presentation was a Creation. You may try building upon this into a fuller project.

3. In the course text " Mathematic in Action" by Wagon. Chapters 2-20 each give pathways for exploration with code. You could implement parts of one these chapters and then move on from that towards your own exploration of topics from those chapters. Chapter 21 gives 6 different and interesting starting points for exploration with slightly less structure than chapters 2-20.

4. Here are some starting out points for projects from of one of the course texts. Again the purpose of this project is to give you time to explore and create something of interest to you. These problems are as starting point of this exploration. Merely completing one of this problems is not a full project.

From "An Introduction to Modern Mathematical Computing" by Borwein and Skerritt.

Page 74 Number 2: Collatz's Problem

Page 75 Number 3: Normal Numbers

Page 137 Number 3: Explorations of $\frac{\sin x}{x}$

Page 192 Number 2: Systems of difference equations

Page 193 Number 3: Systems of differential equations

From "Mathematica a Problem Centered Approach" by Wagon.