## Introduction

## Literature Review Of Suitable Techniques

1 Rule Based Approach

When playing Hanabi, intuitively a number of rules become apparent when attempting to maximise the score.

When all fireworks are empty, any card with the value of “one” can be played

When all fireworks stacks are above a certain value, any cards below/equal to this value can be discarded

There is only a single five for each colour so they must not be discarded when in a player’s hand

2s, 3s and 4s all have duplicates – however if any one of these is discarded the remaining card must be treated appropriately.

These rules can be hard code quite easily into a simple reflex agent. However, issues arise when introducing the concept of hints. Which hint will maximise the final payoff? How is an agent meant to interpret a hint? An agent is limited by the number of hint tokens available too.

The approach considered and implemented was that of a conservative/cautious agent which would follow a hierarchy of actions.

Play a card that is guaranteed to work.

2 Dynamic Programming

3 Monte Carlo Tree Search

4 Logical Agents

5 Perfect Information And It’s Effect On The Game

## Rationale Of Selected Technique

## Implementation Description

## Validation