CHAPTER 1
INTRODUCTION

1.1. Background

Wine is one of the alcoholic beverages produced from anaerobic fermentation (without the presence of O2) of fruits. The fruit usually used as raw material for making wine is crushed red grapes. The alcohol content in wine ranges from 12-15%. The characteristics and quality of wine are determined by the composition of the raw materials, the fermentation process, and the changes that occur either naturally or intentionally in the period after fermentation is complete. Wine is believed to increase antioxidants so it is believed to provide health benefits. The benefits of wine for the body include maintaining heart health and increasing good cholesterol levels in the blood.

However, the benefits of wine can be felt if consumed in the right amount. The recommended wine consumption is 1 glass per day or 150 ml. In addition to the good benefits, there are also negative effects. The negative effects are inhibiting the absorption of folic acid in the body and reducing bone density

1.2. Problem Formulation

In this project, only a few issues will be explored.

1. Can the AdaBoost algorithm predict wine quality?
2. Can the Random Forest algorithm predict the alcohol content of wine?

1.3. Scope

The project is based on datasets retrieved from Kaggle and both datasets are related to the Portuguese "Vinho Verde" [Cortez et al., 2009] red and white variant. This prediction is done with the help of orange data mining by utilizing the AdaBoost algorithm and Random Forest algorithm.

1.4. Objective

This project will discuss the use of the Orange Data Mining application to make predictions. The results of this project will prove that Orange is a great tool for making predictions as it has high accuracy and low variance.