

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Keeping records of sales transactions in a business is important. Not only to calculate profits, but sales transactions can find frequently purchased items. Those items are found by counting the sum of items per transaction. Then items are sorted from most purchased times until few purchased items. This information can be used to arrange stock and items promotion. However, if data is large enough, the items are not easily calculated manually. The items calculation must pay attention to the total of transactions.

Algorithm in the Data Mining study can solve the problem above. The algorithm solves the problem by learning purchased items through sales transaction records. The result is frequently purchased items. This data is learned using the FP-Growth algorithm

By using the FP-Growth algorithm, the system can find out the set of items that are frequently purchased.

### 1.2 Scope

Scope of this research are :

1. Is the FP-Growth algorithm simulation able to find sets of frequently purchased items?
2. What can be learned from simulation system using many variety of total data?

### 1.3 Objective

This research for build system simulation that implements FP-Growth algorithm by learning transaction data.

