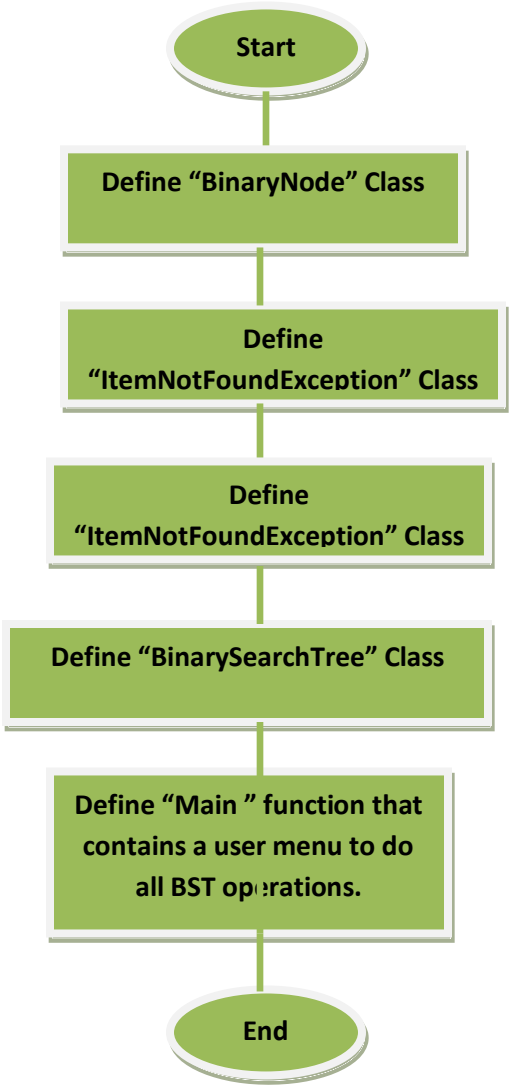
Data Structures

Lab 3: Binary search Tree

Lab work:

This Lab aims to develop your practical knowledge about tree by using the theoretical knowledge you had from lectures in order to build a Java program that implements a Binary search tree.

The program consists of five classes: BinarySearchTree, BinaryNode, ItemNotFoundException, DuplicateItemException and Main.
You program should follow the following flowchart.



Binary Search Tree Operations

- void insert(x) --> Insert x
- void remove(x) --> Remove x
- void removeMin( ) --> Remove minimum item
- Comparable find(x) --> Return item that matches x
- Comparable findMin( ) --> Return smallest item
- Comparable findMax( ) --> Return largest item
- boolean isEmpty( ) --> Return true if empty; else false
- void makeEmpty( ) --> Remove all items