



Vantage 140 CPSC 110

Binary search and Backtracking search

Week 7

Lesson Plan:

Using a BST, compare binary search and backtracking using examples to search for a given key versus search for a given value

Intended Learning Outcomes:

- Develop understanding of BST invariant
- Develop understanding of a binary search on a BST
- Develop understanding of a backtracking search on a BST

Required Materials:

- 1) BST-searches-problem.rkt

Lesson Procedure		
	Resource(s)	Time
Main Task 1 – Decode problem	BST-searches-problem.rkt	35-40 mins
Put students into groups of 3. Give the students the BST-searches-problem.rkt and ask them to work together on solutions for the 2 required functions.		
Main Task 2 – Analyze solutions		10-15 mins
Ask groups to answer the following questions: Describe the difference between the order the two functions visit the nodes in each search of the binary search tree. Use the example picture of the tree to help your explanation. When will the first function reach the base case? When does the second function reach the base case?		