

## Week 6

### Binary Search Tree

**Preliminary:** Class lecture

**Workshop:** Constructing the binary search tree data structure

Materials:

- BST.py
- BST.pdf (the lecture note)

- 1) Study the definition of class node.
  - The Binary Search Tree begins with only “root = None”.
  - Class node defines the fundamental element of the binary search tree
- 2) Develop your own codes for the rest of the operations, which are
  - Finding the node whose key matches the specified value.
  - Finding the node with minimum key and finding the node with maximum key
  - Finding the successor node of the a given node
  - Inserting a new node into the binary search tree
  - Deleting a specified node from the binary search tree

For each operation developed, create a few test codes to verify that the operation functions correctly.

- 3) How may you check a created binary tree for whether it satisfies the “binary search tree” property?