Homework No.6
Due Date: May 23, 2005 at the beginning of the class exam
A late turn-in will not be accepted

1. Draw a binary tree after each of the following key insertions. Assuming that bc is a instance of binary tree class and empty before the insertions. 10%
   
   ```
   bc.insert(40), bc.insert(105), bc.insert(20),
   bc.insert(15), bc.insert(30), bc.insert(80), bc.insert(150),
   bc.insert(120), bc.insert(190); bc.insert(130);
   ```

2. Draw a binary tree after bc.delete(20) 10%

3. Draw a binary tree after bc.delete(105) 10%

4. Design hash table that supports a b-tree as a table data element. Provide UML diagram and discuss pros and cons when compared with the separate chaining-hash. 10%

5. Write adjacency matrix and adjacency list that represent the following graph and design UML diagrams to represent this graph 20%

6. From above graph (5)
   a. Show a path by DFS (10%)
   b. Show a path by BFS (10%)
   c. Show its equivalent MST graph (10%)

7. Give the following tree
a. show steps how to add 47 (5%)

b. show steps how to delete 57 and then 95 (10%)