Al Alamein International University
Faculty of Computer Science and Engineering
CSE111 Data Structures

Lab 5

Submit your java file on MS Teams, make sure you write your ID and name in the file

Task (1) [100 marks]

Provide an ADT java class for a binary search tree named "BST" that supports the following functionalities:

1) [10 marks] Construction.
2) [10 marks] Insert a value at the BST using recursion method .
3) [20 marks] Delete a value from the BST using recursion method (leave node, node with one child and node with two children).
4) [10 marks] Display the BST in postorder .
5) [10 marks] Display the BST in preorder .
6) [10 marks] Display the BST in intorder .
7) [10 marks] Find Maximum.
8) [10 marks] Find Minimum.
9) [10 marks] Search for a value in the BST.(retune 1 if found , 0 otherwise)

Hints.

- Create the proper data members, methods signatures, and proper class interface.
- Use the clean code rules indicated in class. Use refactoring and follow OODP.
- Create the proper test cases that show that your code is working correctly for every method
- Use comments in your code