# 6.12.16

# UMLs:

אורן, סער – 12.12.16

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| WAVLNode |
| Fields:  **private** WAVLNode **parent**; **private** WAVLNode **left**; **private** WAVLNode **right**; **private int**[] **differences**; **private int key**; **private** String **value**; |
| Methods:  **public** WAVLNode()  **public void** setParent(WAVLNode)  **public void** setLeft(WAVLNode)  **public void** setRight(WAVLNode) **public void** setRightDifference(**int**)  **public void** setLeftDifference(**int**)  **public void** setKey(**int**)  **public void** setValue(String)  **public void** setDifference(**int**, **int**)  **public** WAVLNode getParent()  **public** WAVLNode getLeft() **public** WAVLNode getRight() **public int** getLeftDifference() **public int** getRightDifference() **public int** getKey() **public** String getValue()  **public int** getDifference(**int**)  **public boolean** isLeaf()  **public int** relationWithParent()  **public int** relationWithChild(WAVLNode) |

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| WAVLTree |
| Fields:  **private** WAVLNode **root**; |
| Methods:  **public boolean** empty()  **public** String search(**int** k) **public int** insert(**int** k, String i)  **public int** delete(**int** k) *//* ***TODO*** **public** String min() **public** String max() **public int**[] keysToArray() *//* ***TODO*** **public** String[] infoToArray() *//* ***TODO*** **public int** size() *//* ***TODO***  **private static void** promote(WAVLNode)  **private static void** demote(WAVLNode)  **private static void** rotateRight(WAVLNode)  **private static void** rotateLeft(WAVLNode)  **private static** WAVLNode successor(WAVLNode)  **private static** WAVLNode predecessor(WAVLNode)  **private static** WAVLNode minNode(WAVLNode)  **private static** WAVLNode maxNode(WAVLNode)  **private static** WAVLNode findKey(WAVLNode, **int**)  **private static** WAVLNode findInsertionPlace(WAVLNode node, **int**)  **private static int** insertionCase(WAVLNode)  **private static int** deletionCase(WAVLNode) *//* ***TODO*** |