Data Structure: Assignment #3

1. Write a method - ***String decimalToBinary (int num)*** - that prints out the binary equivalent of a decimal integer using the stack implementation. For example, if the number 44 is input, the program will print out 101100. In addition, add a method - ***String decimalToBase (int num,int base)*** - that could print the equivalent of a decimal integer for a specified user defined base (i.e. 2 -> 16).

2. Create a data structure TwoStacks class that represents two stacks using only one array, i.e., both two stacks should use the same array for storing elements. Following functions must be supported by TwoStacks.

   push1(int x) –> pushes x to first stack

   push2(int x) –> pushes x to second stack

   pop1( ) –> pops an element from first stack and return the popped element

   pop2 ( ) –> pops an element from second stack and return the popped element

Note: Implementation of TwoStacks should be space efficient.