**Homework Assignment #7 due Thursday Fab 22, 2018**

**Collections**

**Problem 1:**

A stack is a useful tool for reversing a list of items. Pushing items onto a stack and then popping them off results in the items being returned in the reverse order from which they were pushed. Use the following class for this assignment.

public class PalindromeRunner

{

public static void main(String[] args)

{

PalindromeTester pt = new PalindromeTester();

if (pt.isPalindrome("bob"))

{

System.out.println("bob is a palindrome");

}

else

{

System.out.println("bob is not a palindrome");

}

if (pt.isPalindrome("amanaplanacanalpanama"))

{

System.out.println("is a palindrome");

}

else

{

System.out.println("amanaplanacanalpanama is not a palindrome");

}

if (pt.isPalindrome("abcdefghijklmnopqrstuvwxyz"))

}

System.out.println("abcdefghijklmnopqrstuvwxyz is a palindrome");

}

else

{

System.out.println("abcdefghijklmnopqrstuvwxyz is not a palindrome");

}

}

}

You will need to build the PalindromeTester class and provide it with a with the boolean isPalindrome(String s) method that returns true if the string s is a palindrome, otherwise it returns false. Populate the class with a Stack<Character> object. Push each character of the passed string onto the stack. Java will autobox each char into a Character object.

**Problem 2:**

Write a program that stores the following information in a HashMap:

Sue is friends with Bob, Jose, Alex, and Cathy

Cathy is friends with Bob and Alex

Bob is friends with Alex, Jose, and Jerry

After storing the information, prompt the user to enter a name. If the name that is entered is Sue, Cathy, or Bob, print out the name and the list of friends. Otherwise print a message indicating that the name is not in the HashMap.