

Recursion Worksheet 3 (a lab)

Labs: Write each of the following. You should put them into one class called Recursion.java. Make each of the methods below static.

1. Write a recursive method called **double recPow(int base, int exp)**; which calculates base^{exp} . The base and the exp may be positive, negative, or zero.
2. Write a recursive method called **String buildWeirdString(String s)**
While building the 'forward' part of the original string, it should not keep any digits that were part of the initial string - and while building the 'backward' part of the original string, it should not keep any letters of the alphabet that were part of the initial input. (you should find the reverseLine() method we did in class helpful) Tiny hint for ignoring case – there is a helpful method in the Character class that will tell you if a character is a letter or not.

for example,

user input:	abCD123e!\$f%
would produce the output:	abCDe!\$f% %\$!321

(space in output here only to show you where the forward ends and backward begins – do not put it in

3. Write a recursive method **bool isPalindrome(String str)**; that returns true if its parameter is a palindrome, false otherwise. The parameter str will only contain letters of the alphabet (no spaces, no punctuation); the algorithm should ignore case.

here are some famous palindromes for testing purposes:

Madam, I'm Adam
racecar
A man, A plan, A canal, Panama
witttryrttiw
noyoucanthaveanaanaevahtnacuooyon

