

Course #2 Object Oriented Programming

Assignment #2 Recursion

1. Write a **recursive** function **power(int x, int y)** that calculates x to the power y.

Sample Run: (input in green)

Enter base: 10
Enter exponent: 3
1000

2. Write a **recursive** function **int sum(int [] x)** that calculates the sum of integers in array x.

Sample Run: (input in green)

Enter array size: 5
Enter array elements:
6
10
5
8
1
Sum: 30

3. Write a **recursive** method *String eliminates(String sentence, char letter)* that takes a String and a char and return a new string and deletes each occurrence of this character from the string.

Sample Run: (input in green)

Enter string: welcome to recursion world

Enter char: o

welcme t recursin wrld

Hint: You can use string.substring(index)

4. Write a “String Inverter” **recursive** function. It takes a sentence and returns the sentence in reverse order. For example, given “welcome to recursion world” as input, your program should print out “world recursion to welcome”.

Note: that space is the only separator.

Sample Run: (input in green)

Enter sentence: welcome to recursion world

world recursion to welcome

Hint: You can use string.split(“ ”) to split the input string around the spaces into an array.

Bonus: Compare recursive functions with another iterative functions.