COMP 212 : Functional Programming, Spring 2022

Homework 04

Name: _____

Wes Email: _____

Question	Points	Score
1	20	
2	10	
Total:	30	

If possible, please type/write your answers on this sheet and upload a copy of the PDF to your google drive handin folder. Otherwise, please write the answers in some sort of word processor and upload a PDF. Please name the file `hw04-written.pdf`.

See the homework handout for descriptions of the problems.

1. **Prefix sum**

(5)   (a) Give a recurrence, closed-form, and big-O bound for the work of `prefixSum`.

Solution:

(5)   (b) State a theorem relating `prefixSumHelp` and `prefixSum`

Solution: For all `xs:  int list` and _____,

`prefixSumHelp(xs,_____)` $\cong$

(10)   (c) Give recurrences, closed-forms, and big-O bounds for the work of `prefixSumHelp`
           and `prefixSumFast`.

Solution:

2. Shuffle

(10)   (a) Give a recurrence and big-O bound for the work of `shuffle`.

> **Solution:**