

Northern Michigan University (Marquette Co, MI)

CS 556-01-24W: Functional Programming

Assignment 2

Due: Wednesday 3 April 2024 11:00 A.M. EST

Create a folder called “HW2” in the top level of your CS556-01-24W folder. Place all files pertaining to this assignment into the top level of your PG1 folder. Place a (possibly empty) file called “DONE” into this folder when you are ready to have your homework graded.

Write LISP expressions that solve the following problems.

1. Given a list of numbers, compute the sum of the squares of all the numbers.
2. Given a list of integers compute the sum of the squares of all the even numbers in the list.
3. Given a list n , compute the sum of the perfect squares present in the list.
4. Given a list of ints, generate a list where each entry in the new list is the sum of the int at the corresponding position in the original list plus the two ints following it. For example,

[1,2,3,4,5,6,7,8,9,10] generates [6,9,12,15,18,21,24,27,19,10].

5. Given a list of ints, generate a list where each entry in the new list is the product of the int at the corresponding position in the original list and all ints following it.

[5,4,3,2,1] generates [120,24,6,2,1].