Easy Problems

Charles Thorson

Make a block that checks through a list and counts how many words that are longer than n length.

```
I count number of words in list | can sum lengths of words | over length
```

Answer:

```
+I+count+number+of+words+in+ listy + over+length+ len +
report
length of keep items such that length of > len from listy
```

Jeffrey Jacinto

Write the block 'Short Stuff' that reports the words in a sentence that are less than the input length as a list.

```
Short Stuff What's-with-the-short-jokes?-I-wish-I-had-longer-ones. 4
```

```
+ Short + Stuff + Sentence + length ) +

report

keep items such that length of | < length ) from sentence->list Sentence
```

Jobel Vecino

Write a block that takes a list of words and keeps only words that have an odd number of letters and have a length with a cube above 40.

Block:

```
odd and cube over 40 list the doggy caught a frisbee 1
```

Answer:

```
report
| length of | x length
```

Medium Problems

Josh Perline:

Report only the smallest words in the list.

* Assume you have a **min** block that given two numbers, reports the smaller of the two.



Answer:

```
+smallest+words+of+ list : +

report
keep items such that

length of = combine with min  items of map length of vover list  items of vover lis
```

Franklin Lee

Reverse a sentence without using loops, only higher-order functions. [Tests for: knowledge of combine function, ability to create helper functions if necessary, or explore functionalities of HOFs] Challenge: create a reverse-word function.

```
reverse sentence good-day-to-you-all
```

Helper Function for Answer

Charles Thorson

Use a HOF to make a block that sums the length of the words in a list.

```
sum word lengths (list [ can sum lengths of words ()
```

Answer:

Jeffrey Jacinto

Write the block 'A-list' that returns the length of the largest word that starts with the letter 'a' or 'A' from the input sentence.

```
A-list The magic of art is astounding
```

```
+ A-list + sentence +

report

combine with max length of and length of items of length of length of items of length of lengt
```

(will also work with letter 1 of _ = A, since Snap is case insensitive)

Tierney Henderson:

Using HOFs, create a block that takes in a list of words and returns only words in which both the first and last letter are vowels.

```
start and end with vowel? (list meow omega america 4)
```

Answer:

```
report
keep items such that

list a a l o u y +> contains letter 1 of and
list a a l o u y +> contains letter length of of list
```

Challenging Problems

Charles Thorson

Make a block that applies the function $f(x) = (x^n(number of digits in x))$ to all the values in

the list, and finds the difference between the product of all the even terms in the new outputted list and the product of all the odd terms in the new outputted list.

* Assume you have an exponentiation block that given two numbers x and y, reports x^y.

```
long annoying word problem (list 3 4 54 1)
```

Answer:

```
+loud+annoying+problem+(list:)+
       combine with
       keep items such that
                             mod (2
                                        = 0
                   length of
             ехр
report
       combine with
       keep items such that
                               mod (2
                    length of
             ехр
+exp+(x)+(y
script variables
set result to 1
repeat y
set result to result x x
report result
```

Jeffrey Jacinto

Write the block 'Codify' that takes a sentence and returns the sum of the squares of only the even lengths of the words, and joins this to the number of words of even length.

```
Codify Apples-taste-okay
```

(Apples \rightarrow 6^2 = 36 okay \rightarrow 4^2 = 16 36 + 16 = 52, joined with number of even words = 2 \rightarrow 522)