Lab 08

How long did this assignment take?
6 hours

What was the hardest part of the assignment?
The Pseudocode was the hardest part for me

Was there anything unclear in the assignment?
I just had trouble getting the pseudocode going.

Pseudocode

Main

```
      #store number requested
    Get amount <- from user

      #create dictionary to store known values
    Create known_values <- []

      #create loop to iterate through until target number
    For i in range(1,amount+1)



          # Reset list at start of loop
A       Calculated_values <- []

          # Has value been calculated?
        If known_values holds i -1 or known_values holds i -2

            Calculated_values.append(known_values[i – 1] +known_values[i – 2]

        Else

            #
            If number = 1
                Calculated_values.append(2)
            Elif number = 2
                calculated_values.append(1)
B
        Sum_of_values <- sum(calculated_values)
C       Known_values[i] <- sum_of_values

    # Print answer
D   Print known_values[amount-1]
```

Trace

	Known_values	calculated_values	I	amount
A	[]	[]	0	5
B	[]	[2]	0	5
C	[2]	[2]	0	5
A	[2]	[]	1	5
B	[2]	[1]	1	5
C	[2,1]	[1]	1	5
A	[2,1]	[]	2	5
B	[2,1]	[3]	2	5
C	[2,1,3]	[3]	2	5
A	[2,1,3]	[]	3	5
B	[2,1,3]	[4]	3	5
C	[2,1,3,4]	[4]	3	5
A	[2,1,3,4]	[]	4	5
B	[2,1,3,4]	[7]	4	5
C	[2,1,3,4,7]	[7]	4	5
D	[2,1,3,4,7]	[7]	5	5

Algorithmic Efficiency
O(n) because it is only looped through once per value.