

# Mousey Design Document

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Problem:

Sort 20 cheesesticks in ascending order.

Solution:

## Insertion Sort

1. Start with sorted array (first value), followed by unsorted array
2. Use for loop to traverse the array, starting with the first value in the unsorted array
3. Each iteration adds the next value in the unsorted array into the sorted array

Runtime =  $O(n^2)$

The actual runtime is a bit shorter than in Big O notation. It is  $O(n^2)$  because for every value in the array, the whole array (only the unsorted portion) is traversed.