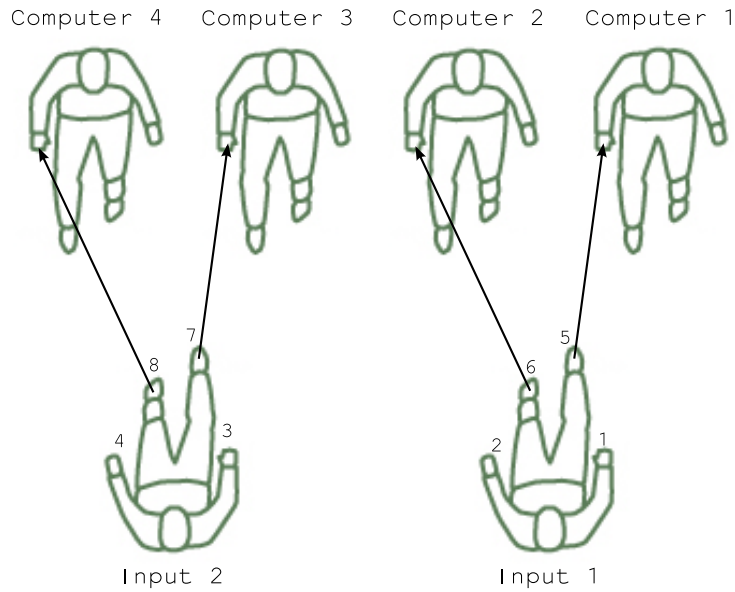


# Rules for performing an "Human Adding Machine" (for 6 people)



## I: ENCODING

The input number is written on a card.

If the number is 8 or larger:  
subtract 8 from the number and write  
the new number (crossing out the  
old) and ask "Input 1" to raise  
their right hand.

If the (new) number is 4 or larger:  
subtract 4 from the number and write  
the new number (crossing out the  
old) and ask "Input 1" to raise  
their left hand.

If the (new) number is 2 or larger:  
subtract 2 from the number and write  
the new number (crossing out the  
old) and ask "Input 2" to raise  
their right hand.

If the remaining number is 1: ask  
"Input 2" to raise their left hand.

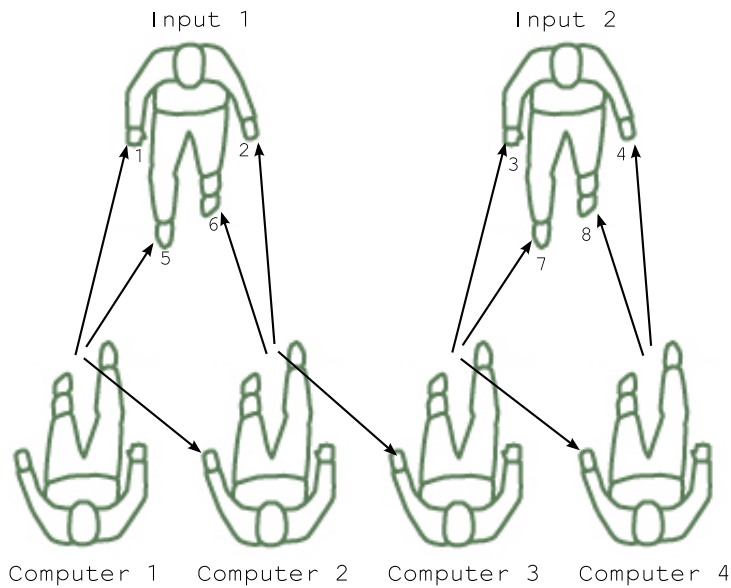
## III: LATCH

Rules for Inputs

Raise or lower your feet to  
mirror the right hands of the two  
"Computers" seated in front of  
you (left foot for left computer,  
right foot for right computer).  
Extend your foot if the hand is  
raised, lower your foot if not.

At this point all hands may be  
lowered, and a new number added  
via I: ENCODING.

# Rules for performing an "Human Adding Machine" (for 6 people)



## II. COMPUTATION

You will observe one side (hand and foot) of the "inputs" seated in front of you and the left (near) hand of the person seated to your right (when present).

Raise your right hand (output bit) if you observe an odd number (1 or 3) of signals (raised hand or extended foot). Raise your left hand (carry bit) if you observe 2 or 3 signals. A quick way to summarize the rules: right if odd, left if many.

### Computer 1 ("Most significant bit")

You observe the left side (the right hand and foot) of "Input 1" (seated in front of you) and the left hand of Computer 2 (seated to your right).

### Computer 2

You observe the right side (the left hand and foot) of "Input 1" (seated in front of you) and the left hand of Computer 3 (seated to your right).

### Computer 3

You observe the left side (the right hand and foot) of "Input 2" (seated in front of you) and the left hand of Computer 4 (seated to your right).

### Computer 4 ("Least significant bit")

You observe the right side (the left hand and foot) of "Input 2" (seated in front of you). You only observe a maximum of 2 signals.

Note how information flows from Computer 4 to 3 to 2 to 1 via the raising of left hands. It is important to wait until any changes have finished propagating from computer to computer.

After computation, the current result of the addition may be observed based on the hands of the computers. (IV: DECODING THE RESULT). If an additional number is to be added, proceed to III: LATCH.

## IV: DECODING THE RESULT

Add the scores according to the following:

Computer 1's left hand: 16 points  
Computer 1's right hand: 8 points  
Computer 2's right hand: 4 points  
Computer 3's right hand: 2 points  
Computer 4's right hand: 1 point