Reduction in MapReduce

What does \texttt{(reduce-arbitrarily list '(0 1 2 3 4 5))} do?

Two neighboring values are chosen on a first-come, first-serve basis.

\[(\langle{0, 1}\rangle\langle{2, 3}\rangle\langle{4, 5}\rangle)\]

Depending on the order in which values are chosen, the same function call can give different results.

\[(0 (1 (2 3) (4 5)))) \quad \text{and} \quad ((0 ((1 (2 3)) 4)) 5)\]

However, if you use an associative reducer, such as + or *, the result will always be the same!