

"Consecutive Slices" Parallel Pizza-Eating Algorithm

(does not assume N is evenly divisible by P)

1. Define N: How many slices of pizza?
2. Define P: How many people?
3. Compute $\text{slicesPP1} = \text{ceiling}(\text{float}(N)/P)$.
4. Compute $\text{slicesPP2} = \text{slicesPP1} - 1$.
5. Compute $\text{remnants} = N \% P$ (the remainder of N/P).
6. Assign each slice of pizza a unique number (0..N-1).
7. Get your own personal, unique id number (0..P-1).
8. Compute $\text{start} = \text{id} * \text{slicesPP1}$; $\text{stop} = \text{start} + \text{slicesPP1}$.
9. If ($\text{remnants} > 0$) AND ($\text{id} \geq \text{remnants}$), recompute:
 $\text{start} = \text{remnants} * \text{slicesPP1} + (\text{id} - \text{remnants}) * \text{slicesPP2}$;
 $\text{stop} = \text{start} + \text{slicesPP2}$.
10. For ($s = \text{start}$; $s < \text{stop}$; $++s$):
Eat slice s .

N: 16
P: 4
slicesPP1: 4
slicesPP2: 3
remnants: 0

0	1	2	3
4	5	6	7
8	9	10	11
12	13	14	15

id: 0 1 2 3
start: 0 4 8 12
stop: 4 8 12 16

s (slice #s eaten): 0-3 4-7 8-11 12-15