

- ▶ We can assume that one machine schedules p_1 and p_n (the largest and smallest job).
- ▶ If not assume wlog. that p_1 is scheduled on machine A and p_n on machine B .
- ▶ Let p_A and p_B be the other job scheduled on A and B , respectively.
- ▶ $p_1 + p_n \leq p_1 + p_A$ and $p_A + p_B \leq p_1 + p_A$, hence scheduling p_1 and p_n on one machine and p_A and p_B on the other, cannot increase the Makespan.
- ▶ Repeat the above argument for the remaining machines.

Tight Example

- ▶ $2m + 1$ jobs
- ▶ 2 jobs with length $2m, 2m - 1, 2m - 2, \dots, m + 1$ ($2m - 2$ jobs in total)
- ▶ 3 jobs of length m

