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1. Benchmark Table

Scheduling Policies	Priority / Nice	Speed (tok/s)	Avg CPU Usage (%)
SCHED_OTHER	0	33.4452	97.38
SCHED_OTHER	2	31.6620	97.24
SCHED_OTHER	10	30.8451	97.19
SCHED_BATCH	0	34.4034	97.16
SCHED_BATCH	2	33.2509	97.02
SCHED_BATCH	10	31.3959	97.24
SCHED_IDLE	0 (only 0)	27.0080	97.00

2. Analysis and Reasoning
Input: Scheduling Policies and Nice.
Outpt: Token Speed and Avg CPU usage,
In this analysis, I will compare each input (Scheduling Policies and Nice values) with the corresponding outputs (Speed and Average CPU Usage).

   a. Priority/Nice
      i. **Nice 0 executes faster than Nice 10** in both SCHED_BATCH and SCHED_OTHER. This shows that within the same policy, the **speed** of token production in a process **decreases** as the nice value **increases** (lowering priority) which is shown in both SCHED_OTHER and SCHED_BATCH.

      ii. However, the correspondence between the Nice values and Avg CPU Usage in each policy is **not consistent.** In SCHED_OTHER, average CPU usage tends to decrease slightly as the nice value increases, but in SCHED_BATCH, the CPU usage values fluctuate without a clear trend. Therefore, the conclusion is that from these results, there does not **seem to be a clear and conclusive relationship** between nice values and Avg CPU usage.

   b. Scheduling policy
      i. SCHED_IDLE performs the **worst** as shown by its speed 27.0080 making it the slowest policy.
      ii. When comparing SCHED_OTHER and SCHED_BATCH, **SCHED_BATCH slightly outperforms SCHED_OTHER** in terms of the speed for processes with the same nice values suggesting that its more efficient.
      iii. In terms of CPU usage, **there is no clear trend** as to which policy is superior. The CPU usage values across all 3 policies are quite similar, all falling within a narrow range of 97% to 97.38%. This comparison suggests that different scheduler makes nearly no impact to avg cpu usage.