

ECE 344: Operating Systems
Lecture 23

More Scheduling and Page Tables

1.0.2

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Let's Explore a Dynamic Priority Scheduling

This may also be called: Feedback Scheduling

We let the algorithm manage the priorities

We use set time slices, and measure CPU usage

Increase the priority of processes that don't use their time slice

Decrease the priority of processes that use their full time slice

We Pick the Lowest Number as Highest Priority

Each processes gets assigned a priority when started, P_n

Pick the lowest priority number to schedule, if it yields, pick the next lowest number

Break ties with arrival order

If a lower priority number becomes ready, switch to it

Record how much time each process executes for in this time slice, C_n

Timer interrupts still occur

At the end of the time slice, update the priority of each thread with:

$$P_n = \frac{P_n}{2} + C_n$$

and reset the value of C_n back to 0

Assume All Processes Have an Initial Priority of 0

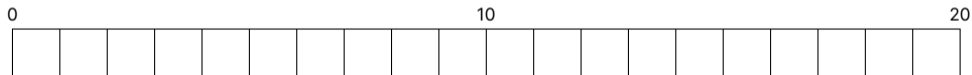
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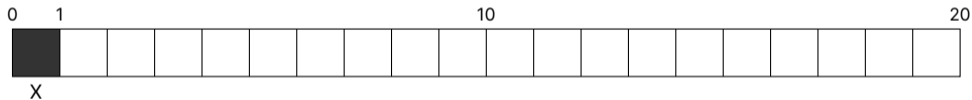
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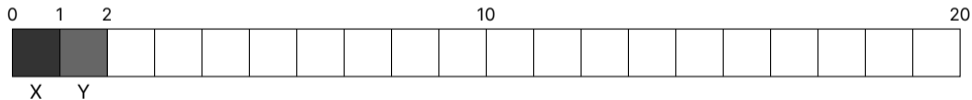
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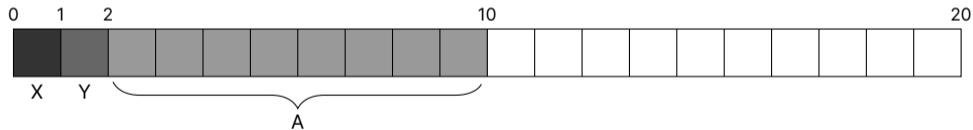
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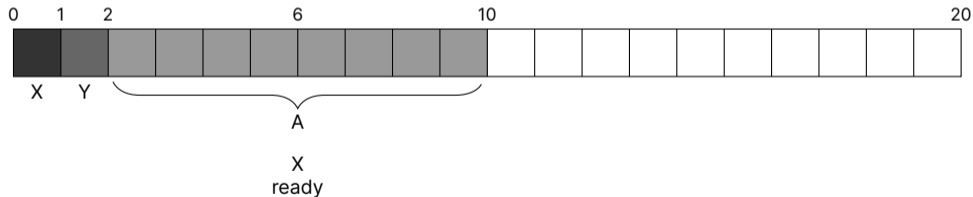
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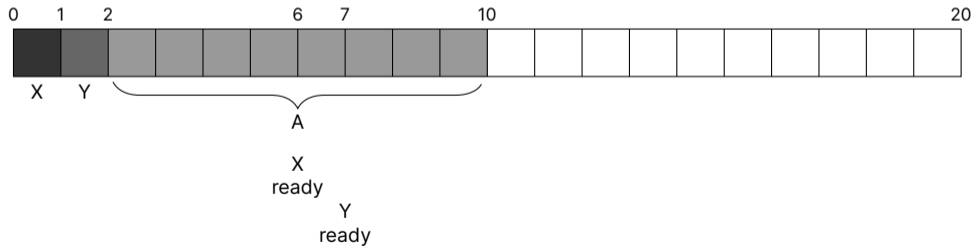
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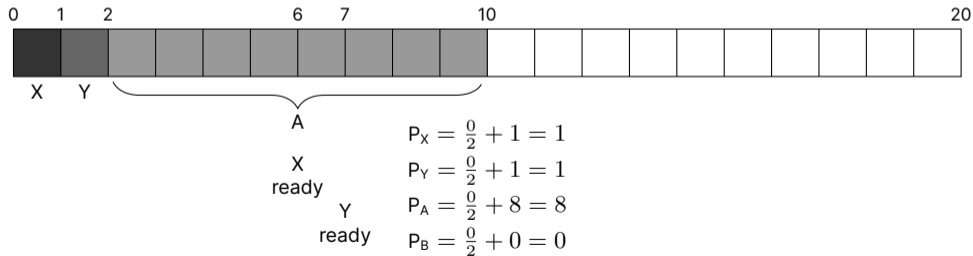
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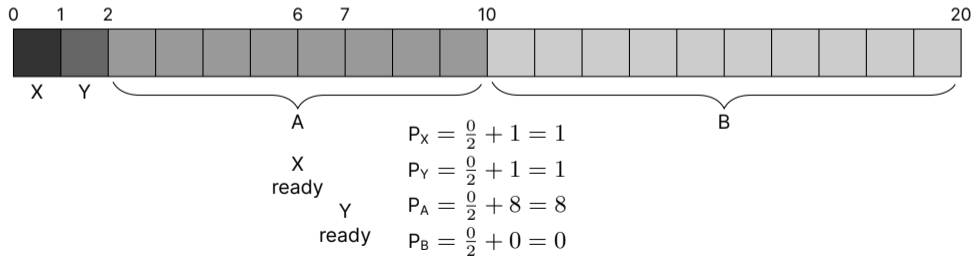
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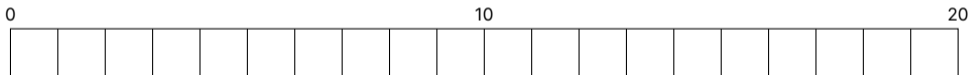
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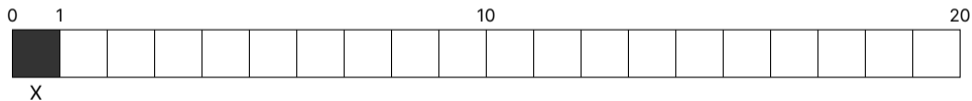
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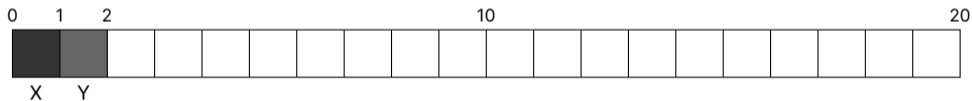
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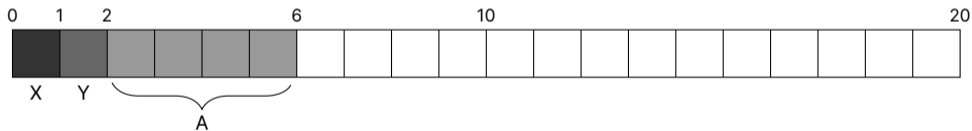
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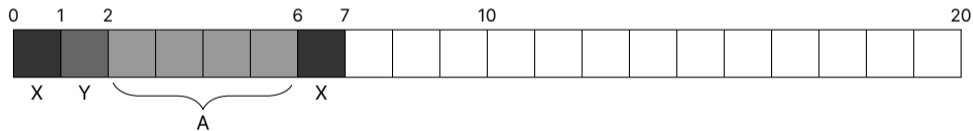
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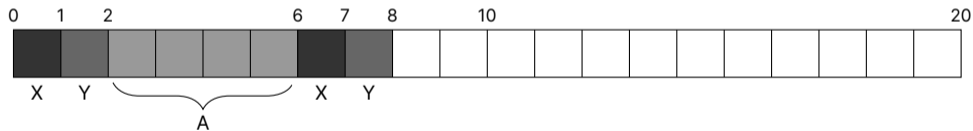
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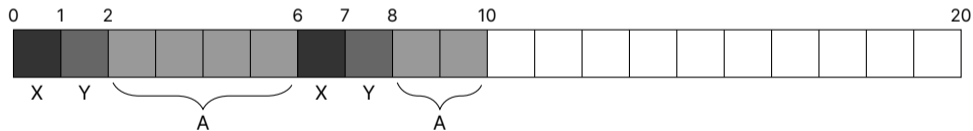
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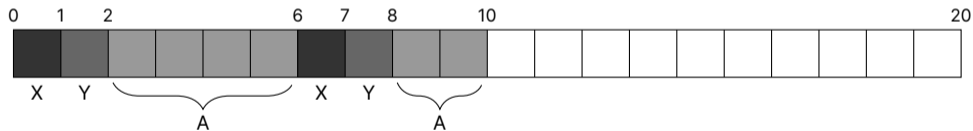
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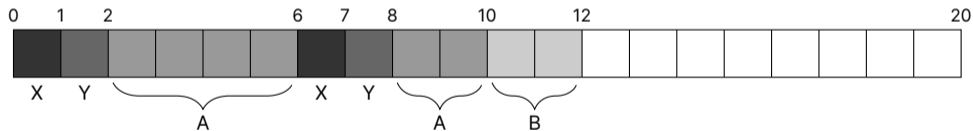
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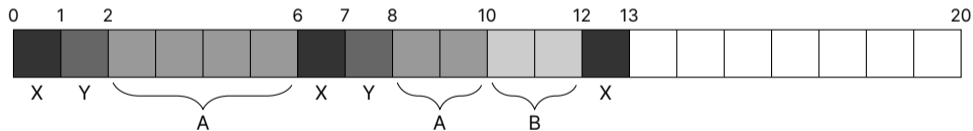
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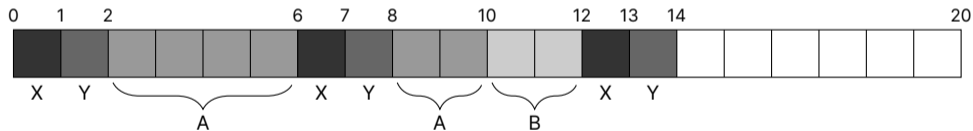
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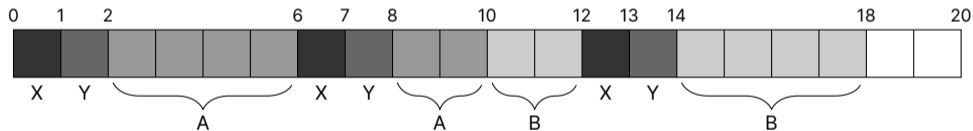
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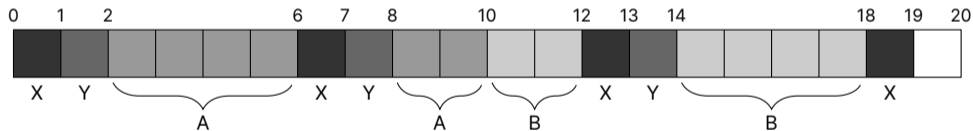
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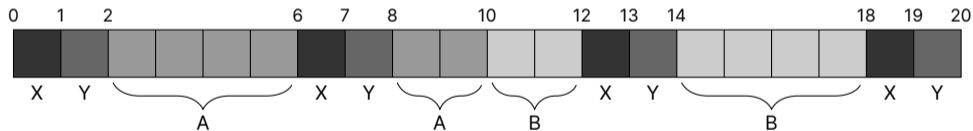
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We'll Explore Multi-Level Page Tables Live

See: `examples/lecture-23`

To build, in the `lecture-23` directory do:

```
meson setup build
cd build
meson compile
./mmusim
```