Alloy Practice
CPU Scheduler

In what follows, entities in the model are in **bold**. Signatures start with a capital letter and relations (fields) begin with a lower case letter.

1. There is ***one*** **Scheduler** for a single CPU system.

2. The **Scheduler** manages the progress of all the **Task**s in the system, one of which is the designated **IDLE** task.

3. The **Scheduler** knows which **Task**s are **runnable**, which **Task**s are **blocked**, and which **Task** is on (using) the CPU (**onCPU**)

4. The **runnable** and **blocked Task**s *partition* the set **Task**, that is:
a. *Every* **Task** is *either* **runnable** *or* **blocked**, and

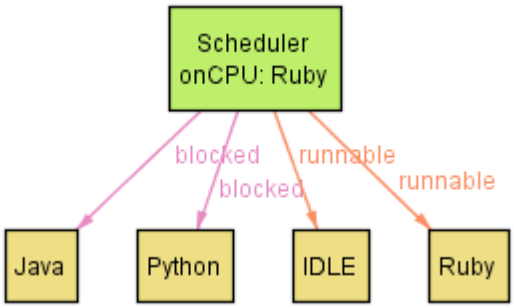
b. *No* **Task** is *both* **runnable** *and* **blocked**.

5. The **IDLE** task is always **runnable**.

6. The **Task** currently **onCPU** is **runnable**.

7. The **IDLE** task is **onCPU** if and only if it is the only **runnable Task** (that is, there is no other **runnable Task**).

A skeleton model is in file *Scheduler.als*, and a visualization theme is in *Scheduler.thm*. Below is an example solution that conforms to the facts above:



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