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Implementation

1. entity_before - We compare the soft_runtime of the two input sched_entities. If both of them are 0 (both of them are not given a soft_runtime) then their vruntime are compared.

2. If any sched_entity has a soft_runtime value greater than 0, the soft_runtime is updated instead of the vruntime.

Initial value of soft_runtime inside mylinux-5.9.1/kernel/sched/core.c in the function __sched_fork is added.

User Usage

A. Input

The user needs to enter the soft_runtime or the soft realtime value that they want to give to the process.

B. Output

The output would be the time taken for a program to execute for both cases i.e. when no soft real time allotted to the process and when the soft real time is allotted to the process.

Observation

Time taken for the process to execute with soft real time guarantee is less than that of when the process is run without soft real time guarantee.

Error Handling

a. If the PID value is invalid i.e., process with that PID doesn't exist it is reported as an error with error no. 3.

b. If user inputs a negative soft real time value, report it as an error with error no. 22 i.e., invalid input.