<u>Course</u>

<u>Help</u>

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Next >

**Discussion** <u>Progress</u> <u>Dates</u>

★ Course / 18. Devices and Interrupts / Lecture Videos (46:07)



LE18.3

< Previous

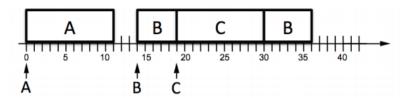
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■ Calculator

### LE18.3.1: Weak Priorities

#### 0.0/1.0 point (ungraded)

A real-time operating system with priority interrupts has three interrupt handlers (A, B, C), each of which, when invoked by the appropriate interrupt request (marked as  $\uparrow$  in the execution timelines), takes 11 time units to execute. For example, the following execution timeline shows the A handler running to completion after an A interrupt request, followed by execution of the B handler, which is itself interrupted by execution of the C handler.

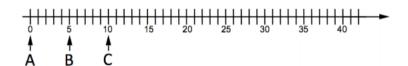


Another way of representing this execution timeline is using a table like the one below:

Interval start time	Interval end time	Device
0	11	Α
11	14	NONE
14	19	В
19	30	С
30	36	В
36	40	NONE
NONE	NONE	NONE

Note that the intervals begin at time 0 and end at time 40. Make sure to include this full time range in your answers. If no handler is running in a particular interval, then NONE should be entered as the device name. All intervals are consecutive such that the end time of one interval is the start time of the next interval. If there are unused rows in the table, then NONE should be entered for all three fields.

For the following question, assume that the interrupt requests arrive as shown in the execution timeline below.



Specify the execution times of the A, B, and C handlers assuming a **weak** priority system with the priorities C > B > A. Fill in the table below using the same conventions as the sample table shown above. Remember to show the complete execution (all 11 time units) for each handler.

#### Weak priority execution timeline:

Interval start time	Interval end time	Device
0	Answer: 11	Answer: A
	Allower	Allower
Answer: 11	Answer: 22	Answer: C
Answer: 22	Answer: 33	Answer: B
Answer: 33	Answer: 40	Answer: NONE
Answer: NONE	Answer: NONE	Answer: NONE

#### **Explanation**

D3 misses deadline 🗸

In a weak priority system a running process does not get preempted even if it has a lower priority than the n 🖬 Calculator

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