#16: What make “determinism” hard to guarantee (mention two)?

The major factors that make “determinism” hard to meet are (any two of the followings):

(a) If the short-term process scheduling is a non-preemptive scheduling, it can take long time before the new process starts running even if the new process has the highest execution priority.

(b) Processes that have a higher execution priority: when a new process is submitted for execution, if there are many other processes that have a higher execution priority (in the ready state), the new process will have to wait for long time before it starts running (thus, meeting “determinism” will be hard).

(c) If the computer system (i.e., the processor) takes long time for performing a context-switching, performing the time-consuming context switch can make meeting determinism hard.

#17: What make “responsiveness” hard to guarantee (mention two)?

The major factors that make “responsiveness” hard to meet are:

(a) If the short-term process scheduling is a preemptive scheduling, even if a new process is successfully assigned a processor (i.e., starts running), the processor can be taken away any time by another process that has a higher priority (thus, meeting responsiveness will be hard for processes other than the one that has the highest execution priority).

(b) If the computer system (i.e., the processor) takes long time for performing a context-switching, performing the time-consuming context switch can make meeting responsiveness hard (the context-switching overhead is a problem for both determinism and responsiveness).