5/11 作業系統隨堂測驗

1. (**B**) One necessary condition for deadlock is ____, which states that at least one resource must be held in a nonsharable mode.
   A) hold and wait
   B) mutual exclusion
   C) circular wait
   D) no preemption
2. (**A**) One necessary condition for deadlock is _____, which states that a process must be holding one resource and waiting to acquire additional resources.
   A) hold and wait
   B) mutual exclusion
   C) circular wait
   D) no preemption
3. (**D**) One necessary condition for deadlock is _____, which states that a resource can be released only voluntarily by the process holding the resource.
   A) hold and wait
   B) mutual exclusion
   C) circular wait
   D) no preemption
4. (**C**) One necessary condition for deadlock is _____, which states that there is a chain of waiting processes whereby P0 is waiting for a resource held by P1, P1 is waiting for a resource held by P2, and Pn is waiting for a resource held by P0.
   A) hold and wait
   B) mutual exclusion
   C) circular wait
   D) no preemption
5. (**D**) Which of the following statements is true?
   A) A safe state is a deadlocked state.
   B) A safe state may lead to a deadlocked state.
   C) An unsafe state is necessarily, and by definition, always a deadlocked state.
   D) An unsafe state may lead to a deadlocked state.

6. (**B**) Suppose that there are ten resources available to three processes. At time 0, the following data is collected. The table indicates the process, the maximum number of resources needed by the process, and the number of resources currently owned by each process. Which of the following correctly characterizes this state?

Process	Maximum Needs	Currently Owned
P0	10	4
P1	3	1
P2	6	4

A) It is safe.

B) It is not safe.

C) The state cannot be determined.

D) It is an impossible state.

7. (**B**) A _____ could be preempted from a process.

A) mutex lock

B) CPU

C) semaphore

D) file lock

8. __X__If a resource-allocation graph has a cycle, the system must be in a deadlocked state.

9. __0__ The circular-wait condition for a deadlock implies the hold-and-wait condition.

10.__X__ Protocols to prevent hold-and-wait conditions typically also prevent starvation.