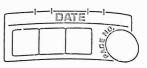
Y	the state of the s
1	Million Courses times and our at sample
Q	what is deadlock.
-	- is a situation in computer science where
10	two for more processes are unable to proceed
	becauce each is waiting for the lother to
	release a resource or terminate.
	the man and the state of the st
	· Recovery techniques :
and the second s	1 Detection and Resolution 1: 11
	- Identify deadlocks, and nerowe other by Killing
	processes or rolling back transactions.
	D Resource preemption: forcefally entarke resources
	from one process to give to others to break the
CONTRACTOR ACCOUNTS OF THE CONTRACTOR OF THE CON	deadlock.
	on a martin a tale is a responsable set ingle world . C
	3) Timeouts: if a process can't get a resource
7	cultura et me l'int release its aresources f
	restart
	9. Avoldance Apigonithmis etus to graphomis
	- Use algorithms to allocate resources safely.
	preventing deadlocks from happening in the first
	place.
- 1	the state of the s
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	The state of the s



Q. Il we are to ensure atomicity, all the sites in which transaction Tenealted must agree on the final outcome of the execution T, must either commit at all riter or it must abort at all sites. describe the two phase commit protocol used to ensure this property in detail 10.0 ( 2) trong -Two-phase commit (2PC) protocol ensures that all sites in a dismouted transaction agree on Whether to commit or aborters a committee - It involves two phases: Noting & committing. -In voting Phase, the Coordinator asks earticipants if they're ready to commit. - In Committing phase, lifetalle agrée : the (o ordinators tell seriemonies too commit otherwise it abouts. - This rensuros atomicity but can be slow for prone to blocking if any component falls. Q. How does the granularity of duta items affect the performance cof Concurrency control. ?! what factors affect the Strection of grandanty sire of dutaitems.  $\longrightarrow$ - granularity of data literasoil mpacts in concurrency Control sin databases et en en opio opio -finer granulanty: allowi more concurrent transactions but incurs higher overhead, - Coarser granulanty simplifies lock management but may increase contension. - factors affecting granulanty selection include Concurrency requirements, access patterns,

