19003187
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2. Which of the following dependencies can you infer does not hold over schema S ?

(a) $A \rightarrow B$
(b) $BC \rightarrow A$
(c) $B \rightarrow C$

I choose $BC \not\rightarrow A$

Given just instance of S, we can say that certain dependencies (eg: $A \rightarrow B$ and $B \rightarrow C$) are not violated by this instance, but we cannot say that these dependencies hold wrt S as schema.

To say that an FD holds wrt a relation is to make a statement about all allowable instances of that relation.

3.

primary Index	Secondary Index
Index on a set of fields that includes the unique primary key and is guaranteed not to contain duplicates.	Index that is not a primary Index and may have duplicates.
Requires the rows in data blocks to be ordered on the index key	Does not have an impact on how the rows are actually organised in data blocks.
There is only one primary index	There can be multiple secondary indexes.
There are no duplicates in primary key	There can be duplicates in secondary index

Clustered Index	Unclustered Index
It is faster	It is slower
It requries less memory for operations	It requires more memory for operations
In this Index is the main data.	In this, index is copy of data
A table can have only one clustured Index.	A table can have multiple unclustered indexes
It has inherent ability of storing data on the disk.	It does not have inherent ability to store data on disk.
In this leaf nodes are actual data itself	In this leaf nodes are not actual data itself they contains included columns.

Dense Index	Sparse Index
Index size is Larger	Index size is smaller
Records in data file need not to be clustered	Records in data file need to be clustured
Computing time in RAM is less	computing Time in RAM is more
Time to locate data is less	Time to locate data is more
Data pointers pointing to each record in the data file	Data pointers pointing Fewer records in data file.