CS & IT

ENGINERING

Database Management System

FD's & Normalization

DPP 02Discussion Notes

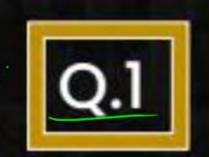


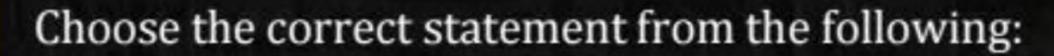


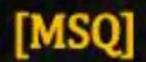
TOPICS TO BE COVERED

01 Question

02 Discussion











There can be many primary keys for a relation.



There can be many alternate keys for a relation.



All the candidate keys are also super keys.

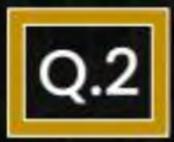


All the super keys are also the candidate keys.



-> Condidate Key (Assume) minimal (select-ag) Pointally key

Remaining SCK SCK SCK



Consider the below instance of relation:

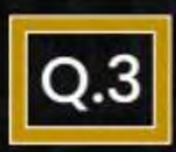


Employee:

Emp_rating	Emp_name	Emp_mail	Emp_sal
1	Rohit	p@pw	40000
2	Kanika	c@pw	60000
1	Rohit	Null	50000
3	Pankaj	g@pw	60000

The maximum possible number of alternate keys for the above relational instance is/are 3_.

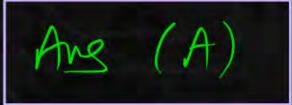
emp. mail, emprating emp sal, empramempsal



Consider the set of functional dependencies for a relation



$$\{D \rightarrow N, D \rightarrow C, D \rightarrow S, C \rightarrow S\}$$



Then choose the correct statement regarding the above set. [MCO]



{D} is the superkey for the relation.



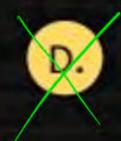


{DN} is the candidate key for the relation. Did Candidate key

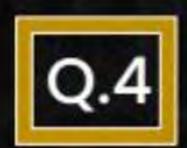




{DC} is the candidate key for the relation.



{CN} is the superkey for the relation.



3CK

Consider the given FD set for relation



 $\{X \rightarrow Y, YZ \rightarrow W, U \rightarrow Z, W \rightarrow X\}$

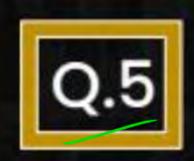
Then the number of prime attributes for the relation are?

$$(x)^{t} = (xy)$$

$$(xy)^{t} = (xy)zw$$

$$(xy)^{t} = (xy)yzw$$

$$(xy)^{t} = (xyy)$$

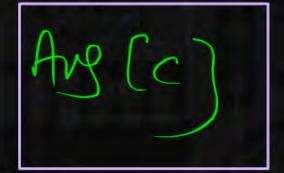


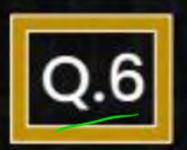
Choose the incorrect statement from the following



- A. All super keys cannot be primary key.
- We choose the minimal candidate key to be a primary key. \rightarrow Correct
- The number of super keys are equal to the number of primary keys for a relation.

 To correct
 - D. None of the above.





Suppose a relation R has 9 attributes, then the maximum possible

number of candidate keys are?

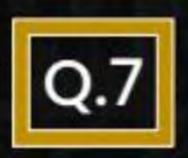
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Number of Attoibute

[NAT]

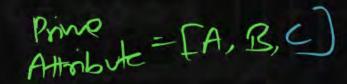
$$Max # Ck = n$$

$$=$$
 9 $\left[\frac{9}{2}\right]$



For all given set of FD, find the primary key from the options below, for relation R (A, B, C, D, E, F) (A) = (AD)

 $\{A \to D, C \to BDE, B \to F, B \to C\}$ $(AR)^{\dagger} = (ARCDEF)$ Prime = (ARCDEF) Attrobute = (ARCDEF)





AC could be the primary key.

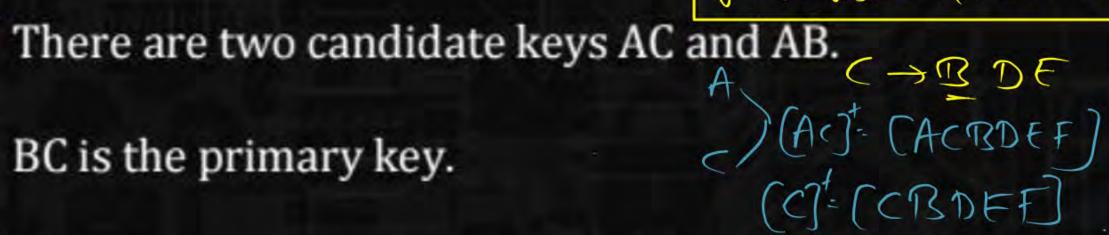
AB is condidate by







BC is the primary key.





No primary key exists for the relation. ACK



Consider a relation R (A B C D E F), on this relation how many maximum number of candidate keys are possible? [MCQ]





$$\text{Max} \# C = \text{Mc} \Rightarrow 6 = 6 = 6 = 6 = 3$$

$$\frac{6\times 5\times 4\times 31}{31\times 31}$$

$$\frac{8\times 5\times 4}{31\times 31} = (20) \text{ Mg}$$

Ang (D)



