

1.

$X \rightarrow YZ \Rightarrow \text{Valid}$

Since two tuple have same values for X
and also they have same value for YZ

X	Y	Z
xyz	2	p
xyz	2	p

2 $X \rightarrow Z \Rightarrow \text{Valid}$

Two tuples have same value for X and Z

X	Z
xyz	p
xyz	p

3. $XY \rightarrow A \Rightarrow$ Invalid

Two tuple don't have the same value for XY and also don't have the same value for A

Invalid $\Leftarrow XY \leftarrow X$

X	Y	A	X	Y	A
xyz	2	11	xyz	2	13
xyz	2	13	xyz	2	13

4. $A \rightarrow xyz \Rightarrow$ Invalid

Invalid $\Leftarrow A \leftarrow X$

Invalid because two tuples have same value for A but different xyz value

A	X	Y	Z
10	abc	1	a
10	abc	3	a

Invalid $\Leftarrow A \leftarrow X$

~~Two tuples don't have the same value for XY but have different A~~

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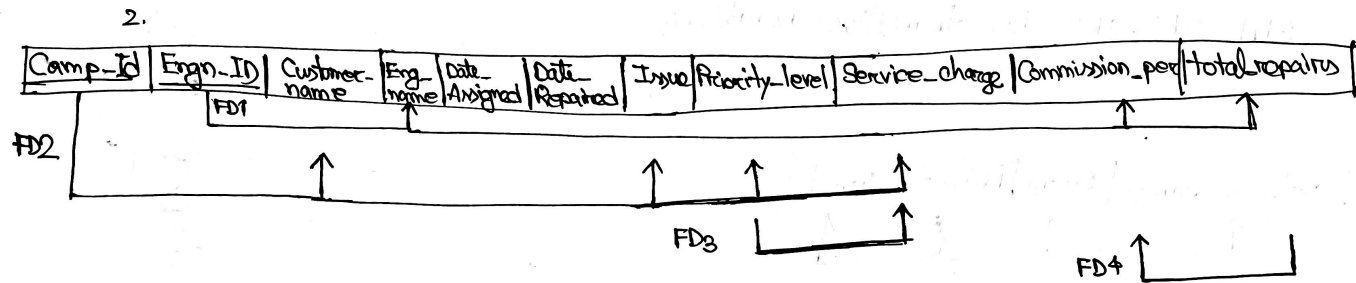
5. $YZ \rightarrow X \Rightarrow$ ~~Valid~~ Invalid (2)

88 = 11 71 = 11 01 = 01 05 = 01
 two tuples have same YZ value but
 X values are not same

Y	Z	X
3	q	beg
3	q	abcd

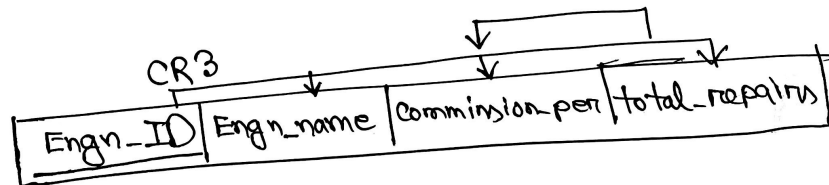
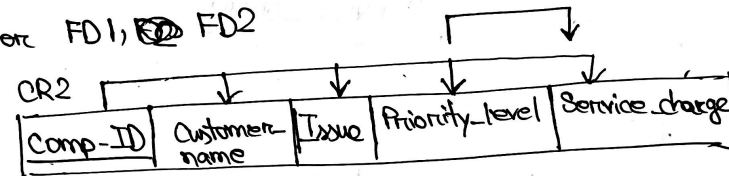
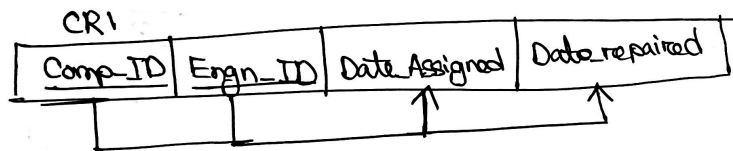
001 01-

(88, 71)
 (01, 05)



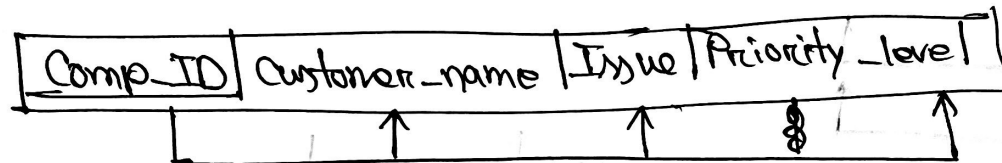
(i) table in 1NF, there is no nested table, composite and multivalued attribute

(ii) Not in 2NF, partial dependency for FD1, FD2

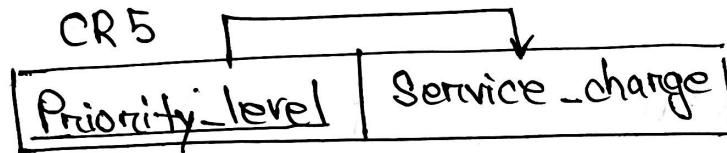


(iii) not in 3NF, CR2, CR3 has transitive relations

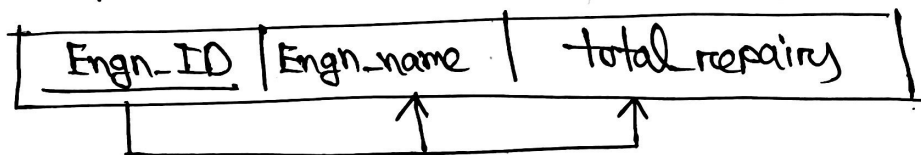
CR 4



CR 5



CR 6



CR 7

