

Ahsan Habib

22201627

CSE-370 - section - 09

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Assignment - 03

Submitted to,

NVL, ma'am

(Answer to the Question -01)

i) As we can see from the Question there is no composite, non multivalued or nested relationship. So the relation is in 1NF.

ii) We can see from the relation that, FD1, FD2, FD3 does not follow 2NF, because they attributes are not dependent on the entire primary attributes. So let's make it 2NF :-

Engn-info (Engineer-Id, Engineer-name, total-repairs, commission-percentage, engineer-phone)

prob-info (Comp-ID, Date-assign, issue, priority-level, service-charge)

cust-info (customer-name, customer-id, customer-phone)

Computer-repair (Comp-id, Engineer-id, Date-assign, Date-Repaired)

iii) FD₄ and FD₅ are not in 3NF as there is transitive dependencies.

Engn-info (Engineer-id, Engineer-name, total-repairs,
engineer-phone)

Engn-achieve (total-repairs, commission-percentage)

prob-info (Comp-id, date-assigned, issue,
priority-level)

priority (Priority-level, service-charge)

computer-repair (Comp-id, Engineer-id,
date-assigned, date-repaired)

cust-info (Customer-id, Customer-name, customer-phone)

(Answer to the Question 02)

Brandt | Chick | Katz | Srinivasan

Brac | cri | Katz | Kim | Srin

Katz | | | |

Brandt | Chick | | |

Katz | Kim | Srin | Wu

Katz | Kim | Singh | Srin
| Wu

Katz | Singh | | |

Brac | Californ | Chick | Elsaid

Katz | Kim | mon | |

Singh | Srin | Wu | |

Brac | Calif | Chick | Einstein | Elsaid

Chick | Katz | Singh | |

Brandt | Calif | | |

Chick | Einstein | Elsaid | Gold

Singh | Srin | Wu | |

Katz | Kim | mon | |

(Answer to the Question - 03)

As we can see from the Question, we are using integer 7, to mod on 1 hash function, so there will be 7 buckets. Starting from 0 to 6 with 2 index.

bucket 0 $\rightarrow \%7 = 0$
 \rightarrow remainder 0

98345

bucket 2 $\rightarrow \%7 = 2$

10 0 1	\rightarrow	83821
45565		12121

1	5	5	1
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bucket 4 $\rightarrow \%7 = 4$

22222

bucket 1 $\rightarrow \%7 = 1$
 \rightarrow remainder 1

58383
33465

bucket 3 $\rightarrow \%7 = 3$

76543

bucket 5 $\rightarrow \%7 = 5$

X
X

bucket 6 $\rightarrow \%7 = 6$

76766
32343