Azmani Sultana

Id : 22201949

Section : 06

Ans no 1

(i)

The relation is in 1NF as it doesn't have any of the following —

      1) composite attributes

      2) nested tables

      3) multivalued attributes

(ii)

The table is not in 2NF as there are partial functional dependencies. Normalized in 2NF :

Computer _ Repair

Comp-Id	Eng-Id	Date-Assigned	Date - Repaired

Engineer - Info

Eng - Id	Eng-name	Total - Rep	Com - percen	Eng-phone

Comp - Rep 1

Comp-Id	Date _ Assigned	Issue	Priority - level	service - charge

Comp - Info

Comp - Id	Customer - Name	Customer - Phone

(iii)

The relationship in not in 3NF as there exist transitive functional dependency. Normalizd in 3NF

Computer - Repair

Comp-Id	Eng-Id	Date-assigned	Date-Repaired

Engineer - Info

Eng-Id	Eng-Name	Eng-Phone	Total-Repair

Additional - Engineer-Info

Total-Repair	Com-Per

Comp-Rep1

Comp-Id	Date-Assigned	Issue	Priority-level

Comp-Rep-Additional

Priority-level	Service-change

Comp-Info

Comp-Id	Customer-name	customer-phone

Ans no 2

Brandt	Cnick	Katz	Srinivasan

Katz

Brandt	Cnick

Katz	Kim	Sriniv	Wu

Katz	Singh

Brandt	Califieni	Cnick	ElSaid

Katz	Kim	Mozant

Singh	Sriniv	Wu

Cnick	Katz	Singh

Brandt	Califieni

Cnick	Einstein	ElSaid	Gold

Katz	Kim	Mozant

Singh	Sriniv	Wu
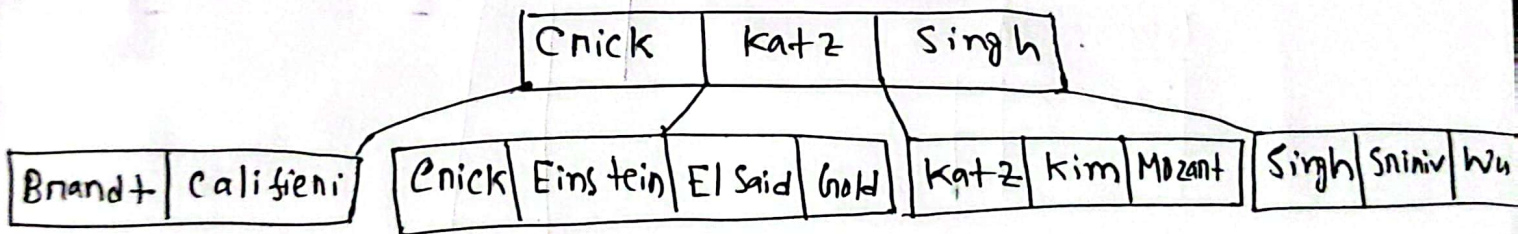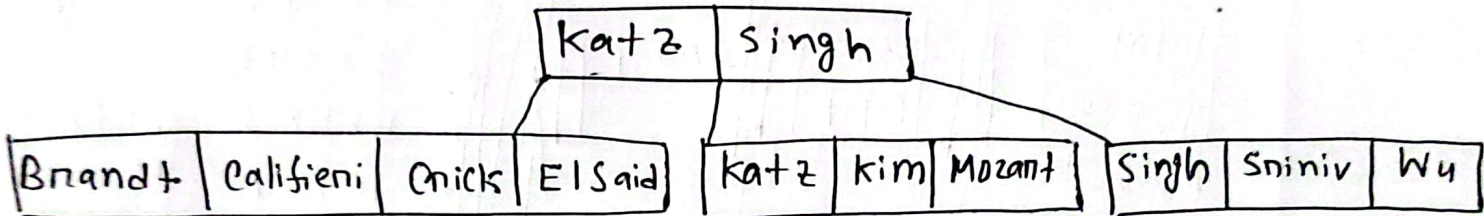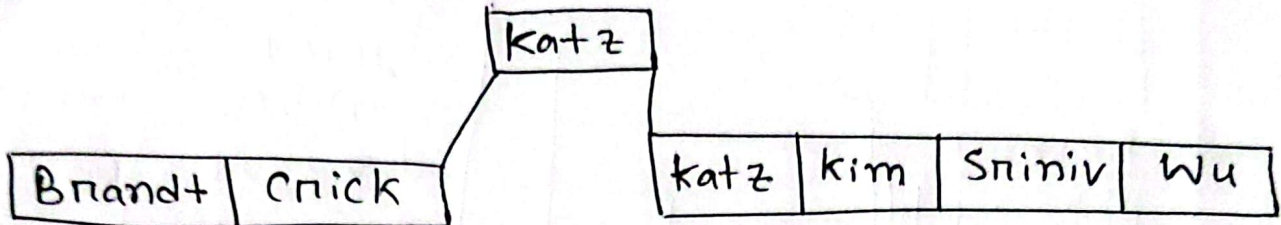
Ans no 3

$h = (\text{sum of first and last digit in ID}) \% 7$

Bucket 0
| 98345 | |

Bucket 1
| 58583 | |
| 33465 | |

Bucket 2
| 10101 | |
| 45565 | |

→ 83821 → 15151

12121

Bucket 3
| 76543 | |

Bucket 4
| 22222 | |

Bucket 5
| | |

Bucket 6
| 76766 | |
| 32343 | |

ID	Name	Dept	Salary
76766	Crick	Biology	72000
10101	Sri	Comp.Sci	65000
45565	Katz	Comp Sci	75000
83821	Brandt	Comp Sci	92000
98345	Kim	Elec Eng	80000
12121	Wu	Finance	90000
76543	Singh	Finance	80000
32343	ElSaid	History	60000
58583	Califieri	History	62000
15151	Mozart	Music	40000
22222	Einstein	physics	95000
33415	Gold	Physics	87000