CHAPTER-4 Assignment

Name:- Kayyala Aravind Kumar
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Q) Convert the following to 2NF and 3NF.

(g, r, p, k, f, b, m, l, o, d, j, i, s, e, c, n, h, a)

FDs (Functional dependencies)

$g \rightarrow d$
$b \rightarrow h$
$s,l \rightarrow i$
$m \rightarrow a$
$m \rightarrow e$

$b \rightarrow o$
$r \rightarrow s,l$
$k \rightarrow n$
$b \rightarrow j$

$g \rightarrow c$
$a \rightarrow e$
$h \rightarrow o$
$r \rightarrow i$

1. $a \rightarrow e$
2. $h \rightarrow o$
3. $s,l \rightarrow i$

} Transitive dependencies

Rest all which are in tick are partial dependencies

Converting to 2NF

R1(g, d, c)

R2(b, h, o, j)

R3(m, a, e)

R4(r, s, l, i)

R5(k, n)

R6(g, r, p, k, f, b, m)

FKs (Foreign keys)

$g \rightarrow R1$
$r \rightarrow R4$
$k \rightarrow R5$
$b \rightarrow R2$
$m \rightarrow R3$

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Converting to 3NF

R1(g, d, c)

R2(s, l, i)

R3(r, s, l)

FK: s, l → R2

R4(a, e)

R5(m, a)

FK: a → R4

R6(k, n)

R7(b, o)

R8(b, h, j)

FK: h → R7

R9(g, r, p, k, f, b, m)

FK: g → R1

r → R7

~~k~~ → R6

b → R3

m → R5

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(20) Ans

EMPLOYEE(EmployeeID, EmplayeeName, Employee Address, Employee Type, Empolyee Birthdate)

EMPLOYEE PHONENUMBER(EmployeeID, Employee PhoneNumber)

FK: EmployeeID → EMPLOYEE

FTE(FEmployeeID, Manager Name)

FK: FEmployeeID → EMPLOYEE

CONTRACT(CEmployeeID, VendorName)

FK: CEmployeeID → EMPLOYEE

PROJECT(ProjectID, ProjectName, Project Start-Date)

BILL(EmployeeID, ProjectID, Assigned Bill Rate)

FK: EmployeeID → EMPLOYEE

ProjectID → PROJECT.