Jails of India Database Management System

Project Description

This Database management system is made to keep the records of the prisoners , guards,jailers,etc of various jails of the country. Details of prisoners and their crimes are recorded so as to make a country wide database of criminals. It also keep records of all visitors to ensure that only certain individuals are allowed into the jail premises, inturn maximising professionalism and security.Information of all the jail staff is also stored so as to make work easy in case of needs.

Users of the database are government of India,government of various states, jail staff.

The database provides a structured way of accessing information regarding the jails and provide functionalities to make their work easy.It can provide information to the government to monitor the condition of prison of the country for example using the database government could find number of prisoners in each jail and the capacity of each jail which could tell which jail is underused and which is overused in turn it could help the authorities to make the living conditions of prisoners better, and uplift the jailing system of the nation.

Database Requirements

1. Entities

a. Prisoner(

i. PFirstName: VARCHAR(20), NOT NULL,
ii. PLastName: VARCHAR(20),
iii. Pid: INTEGER, PRIMARY KEY, NOT NULL
iv. PJailId: INTEGER,NOT NULL,(Jail Id of jail the prisoner is captivated in)
v. PDepId:INTEGER,NOT NULL,(id of department in which prisoner works)
vi. PAddress : VARCHAR(70), NOT NULL,

vii. PDateOfBirth: DATE, NOT NULL,
viii. PDateOfImprisonment : DATE, NOT NULL,
ix. PConfinementPeriod: INTEGER (in years),NOT NULL(total years of imprisonment)

)

b. Jail(

i. JName: VARCHAR(40), NOT NULL,
ii. Jid: INTEGER, PRIMARY KEY, NOT NULL,
iii. JAddress: VARCHAR(70), NOT NULL,
iv. JCapacity: INTEGER, NOT NULL, (Number of prisoners that facility should be able to hold)

)

c. Visitor(list of people who are eligible to visit the jail)(

i. VFirstName: VARCHAR(20), NOT NULL,
ii. VLastName: VARCHAR(20),
iii. Vpid: INTEGER, NOT NULL (Id of prisoner the visitor wants to meet)
iv. VAddress : VARCHAR(70), NOT NULL,
v. VDateOfBirth: DATE, NOT NULL,
vi. VContactNo: INTEGER,

)

d. Crime(

i. Cpid: INTEGER,NOT NULL,(id of the prisoner related to the crime)
ii. CType: VARCHAR(50), NOT NULL,(type of crime, ex: murder,robbery)
iii. CDate: DATE,NOT NULL,(Date of crime)
iv. CLocation: VARCHAR(70),(location of crime)

)

e. Police Officer(

i. POFirstName: VARCHAR(20), NOT NULL,
ii. POLastName: VARCHAR(20),
iii. POid: INTEGER, PRIMARY KEY, NOT NULL

iv. POJailId: INTEGER,NOT NULL,(Jail Id of jail the officer is posted in)
v. POAddress : VARCHAR(70), NOT NULL,
vi. PODateOfBirth: DATE, NOT NULL,
vii. POContactNo: INTEGER , NOT NULL, DISTINCT,
viii. POEmail: VARCHAR(50),
ix. PODateOfPosting: DATE,NOT NULL,(Date on which he/she was posted in that jail)
x. POSalary: INTEGER,NOT NULL

)

f. Guard(a type of police officer)(

i. GFirstName: VARCHAR(20), NOT NULL,
ii. GLastName: VARCHAR(20),
iii. Gid: INTEGER, PRIMARY KEY, NOT NULL(same as police officer id)
iv. GJailId: INTEGER,NOT NULL,(Jail Id of jail the officer is posted in)
v. GAddress : VARCHAR(70), NOT NULL,
vi. GDateOfBirth: DATE, NOT NULL,
vii. GContactNo: INTEGER , NOT NULL, DISTINCT,
viii. GEmail: VARCHAR(50),
ix. GDateOfPosting: DATE,NOT NULL,(Date on which he/she was posted in that jail)
x. GSalary:INTEGER,NOT NULL

)

g. Jailer(a type of police officer)(

i. JFirstName: VARCHAR(20), NOT NULL,
ii. JLastName: VARCHAR(20),
iii. Jid: INTEGER, PRIMARY KEY, NOT NULL(same as police officer id)
iv. JJailId: INTEGER,NOT NULL,(Jail Id of jail the officer is posted in)
v. JAddress : VARCHAR(70), NOT NULL,
vi. JDateOfBirth: DATE, NOT NULL,
vii. JContactNo: INTEGER , NOT NULL, DISTINCT,
viii. JEmail: VARCHAR(50),

ix. JDateOfPosting: DATE,NOT NULL,(Date on which he/she was posted in that jail)
x. JSalary: INTEGER,NOT NULL

)

h. Department(

i. Dname: VARCHAR(30), NOT NULL,(ex: Kitchen, Cleaning etc)
ii. Did: INTEGER,NOT NULL,PRIMARY KEY,
iii. DHead: INTEGER,NOT NULL,(Id of guard who heads that department)
iv. DJailid: INTEGER,NOT NULL,(department belongs to which jail)
v. DWorkHours: INTEGER,NOT NULL (amount of monthly work of each department in terms of hours)
vi. Dwage:FLOAT , NOT NULL (wage paid to prisoner for each hour of work in that department)

)

2. Weak Entities

a. Crime is a weak entity of prisoner
b. Visitor is a weak entity of prisoner

3. Relationships

a. Prisoner(N) is captivated in Jail(1)
b. Prisoner(N) is visited by visitor(N)
c. Prisoner(N) has commited Crime(N)
d. Prisoner(N) works in Department(1)
e. Jailer(1) is posted in Jail(1)
f. Guard(N) is posted in Jail(1)

4. N>3 Relationship

A jail has prisoners who work in a particular department, which is headed by a guard.

5. Subclass

a. Jailer is a subclass of Police Officer

b. Guard is a subclass of Police Officer

6. Attribute types

a. Composite

i. Prisoner name
ii. Visitor name
iii. Police officer name

b. Multi-valued

i. Visitor Contact
ii. Police Officer contact
iii. Police Officer Email

c. Derived

i. Age of prisoner
ii. Period of captivity left of the prisoner(in years)
iii. Age of police Officer

Functional Requirements

1. Insertion of data

a. Insertion of prisoner if a new prisoner is imprisoned
b. Insertion of police officer if (s)he is newly posted
c. Insertion of jail if a new jail is constructed

2. Updation of data

a. Updation of data if a prison officer is transferred to a new jail
b. Updation of data if police officer's contact details are changed
c. Updation of data if a prisoner's jail is changed

3. Deletion of data

a. Deletion of prisoner upon release
b. Deletion of police officer upon retirement
c. Deletion of jail upon demolition of a jail

4. Report

a. Find out monthly wage of a prisoner

- by calculating working hours per month and wage per hour.

b. Find out total expenditure of government on a particular jail

- by adding wages given to all workers and salaries given to prison officers.

c. Find out average expenditure of captivating one prisoner

- by finding total expenditure of govt. and dividing it by total prisoners