Chapter 2 Review Answers

Due: Sunday October 4, 2020 @ 11.59pm

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**1. What is the difference between a database schema and a database state?**

Ans- Database schema is the description of the database that includes the descriptions of the database structure, database types and the constraints on the database. Whereas, database state refers to the content of a database at a moment in time.

2. **Choose a database application with which you are familiar. Design a schema and show a sample database for that application, using the notation of Figures 1.2 and 2.1. What types of additional information and constraints would you like to represent in the schema? Think of several users of your database and design a view for each.**

**Ans:**

**Hospital management system**

* ***Schema:***

|  |  |
| --- | --- |
| Hospital |  |
| Name | Location |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Patient | |  |  |  |  |  |
| Patient\_Id | Name | | Insurance | Date Admitted | Gender | Phone\_Number |

|  |  |  |
| --- | --- | --- |
| Doctor |  |  |
| Doctor\_Id | Name | Specialization |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TEST |  |  |  |  |
| Test\_Id | Name | Patient\_Id | Doctor\_Id | Date\_perfomed |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ACCOUNTANT | |  |  | |  | |
| Accountant\_Id | Name | | | Patient\_Id | | Date\_of\_Payment | | Amount |

|  |  |  |
| --- | --- | --- |
| MEDICINE |  |  |
| Name | Price | Company |

* ***Database:***

|  |  |
| --- | --- |
| HOSPITAL |  |
| Name | Location |
| Arlington Central Hospital | Arlington, TX, 76010, USA |
| Mavericks Hospital | Los Angeles, CA, 76034, USA |
| Magar Private Hospital | Buffalo, NY, 77643, USA |

|  |  |  |  |
| --- | --- | --- | --- |
| Patient | |  | |
| Patient\_Id | Name | | Insurance | | Date Admitted | Gender | Phone\_Number |
| 12345 | Suman Thapa | | Molina | | 10-04-2019 | Male | 9841078409 |
| 12346 | Sreeja Khayal | | Blue Cross | | 10-06-2018 | Male | 9841799963 |
| 12347 | Pratik Mahiro | | Ambetter | | 03-23-2019 | Female | 9860893434 |
| 12348 | Mahesh Magar | | Molina | | 01-23-2020 | Male | 8945958459 |
| 12349 | Gunjan Gurung | | Ambetter | | 03-06-2020 | Female | 6823454544 |

|  |  |  |
| --- | --- | --- |
| DOCTOR |  |  |
| Doctor\_Id | Name | Specialization |
| 12356 | Sunil Thapa | Cardiologist |
| 12457 | Simon Magar | Surgeon |
| 13458 | Rudra Shrestha | Dermatologist |
| 23459 | Albina Chhetri | Dentist |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TEST |  |  |  |  |
| Test\_Id | Name | Patient\_Id | Doctor\_Id | Date\_formed |
| 33445 | Autopsy | 12345 | 123345 | 11-10-2019 |
| 12346 | Biopsy | 12346 | 123435 | 09-04-2018 |
| 12356 | Endoscopy | 12347 | 123567 | 01-02-2010 |
| 99545 | Colposcopy | 12349 | 123954 | 13-05-2020 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ACCOUNTANT | |  |  |  |  |
| Accountant\_Id | Name | | Patient\_Id | Date\_of\_Payment | Amount |
| 11234 | Shreeya Chopra | | 12348 | 01-20-2020 | $537.00 |
| 12343 | Susman Gutrf | | 12347 | 03-03-2020 | $234.00 |
| 14333 | Rajesh Hamal | | 12345 | 05-17-2020 | $123.00 |
| 15243 | Korora Thapa | | 12346 | 02-12-2020 | $987.00 |

|  |  |  |
| --- | --- | --- |
| MEDICINE |  |  |
| Name | Price | Company |
| Lisinopril | $23.00 | Curology |
| Losartan | $98.97 | Chaudhary |
| Amlodipine | $21.09 | Nikola |

**Hospital Management System**

* HOSPITAL (Name, Location)
* PATIENT (Patient\_Id, Name, Insurance, Date Admitted, Gender, Phone\_Number)
* DOCTOR (Doctor\_Id, Name, Specialization)
* TEST (Test\_Id, Name, Patient\_Id, Doctor\_Id, Date\_performed)
* ACCOUNTANT (Accountant\_Id, Name, Patient\_Id, Date of Payment, Amount)
* MEDICINE (Name, Price, Company)
* ***Constraints:***
* The Name filed in all the tables should be a string
* The ID of all the personnel should be restricted to five digit integer
* Dates must be in the format mm-dd-yyyy.