Amadou Bah CS1302 Homework #3 09/06/2016

Chapter 9:

1. Although they are generally harder to design, databases contain multiple tables of data (multidimensional). These tables are connected by internal links, making it possible to separate while simultaneously keeping different categories of information attached. On the other hand, a Flat File is much easier to design, and contains a single table of information (one-dimensional).

2. Data Independence is the ability to change the application software without affecting the database, or changing the database without affecting the application.

3. The Application software does not have a direct link to the actual database. The Database Management System (DBMS) is the intermediary between the application software and the actual. It makes it possible for users to query the database, by processing the requests from the application software and makes the required search in the database.

4. Schemas and subschemas are used by the database to control the accessibility of some information on a database. Schemas provide a description of all the parts of the database. Subschemas describe only specific portions of the database, which provides users access only to the files of interest to them.

5. As described above, subschemas create bounds on what parts of the overall database a specific user has access to, and separating the application software from the DBMS helps to enforce these bounds because the DBMS controls database query. Additionally, separation allows for data independence.

9.

Performer Relation

|  |  |
| --- | --- |
| PerfromerName | Recording |
| PerA | recA |
| PerB | recB |
| PerC | recC |

Composer Relation

|  |  |
| --- | --- |
| Recording | ComposerName |
| recA | ComA |
| recB | ComB |
| recC | ComC |

14. a. SELECT CompanyName

FROM Manufacturer

WHERE Manufacturer.PartName = ‘bolt z’

b. SELECT PartName, Cost

FROM Manufacturer

WHERE Manufacturer.CompanyName = ‘Company X’

c. SELECT CompanyName

FROM Manufacturer

WHERE Part.Name = Manufacturer.Name

AND Part.Weight = 1

16. a. SELECT Name, Address

FROM Employee

b. SELECT Name, Address

FROM Employee

WHERE Job.dept = ‘Personnel’

b. SELECT Name, Address

FROM Employee

WHERE Job.dept = ‘Personnel’

AND Assignment.TermDate = ‘\*’

18.

Passenger Relation

|  |  |
| --- | --- |
| Name | Seat |
| Smith | 12B |
| Smith | 18C |
| Smith | 14A |
| Baker | 18B |
| Baker | 14B |
| Clark | 5A |
| Clark | 4B |

Flight Relation

|  |  |  |
| --- | --- | --- |
| Name | Seat | Flight ID |
| CS205 | 12B | CS |
| CS37 | 18C | CS |
| LH89 | 14A | LH |
| CS37 | 18B | CS |
| LH89 | 14B | LH |
| LH67 | 5A | LH |
| TT331 | 4B | TT |

Airline Relation

|  |  |
| --- | --- |
| Name | Flight ID |
| Clear Sky | CC |
| Long Hop | LH |
| Tree Top | TT |