Tut 1

1.

1.data - c. facts, text, graphics, images, etc

2. database application - b. application program(s)

3. constraint - l. a rule that cannot be violated by database users

4. repository - g. centralized storehouse for all data definitions

5. metadata - f. includes data definitions and constraints

6. data warehouse – m. integrated decision support database

7. information - a. data placed in context or summarized

8. user view – j. logical description of portion of database

9. database management system - k. a software application that is used to create, maintain, and provide controlled access to user databases

10. data independence – h. separation of data description from programs

11. database - e. organized collection of related data

12. enterprise resource planning (ERP) - i. a business management system that integrates all functions of the enterprise

13. systems development life cycle (SDLC) - r. a structured, step-by-step approach to systems development

14. prototyping – o. a rapid approach to systems development

15. enterprise data model – d. a graphical model that shows the high-level entities for the organization and the relationships among those entities

16. conceptual schema – q. a comprehensive description of business data

17. internal schema - p. consists of two data models: a logical model and a physical model

18. external schema - n. consist of the enterprise data model and multiple user views

2.

Every row in the table represents a collection of related data values. Each data has relationship with each other to store necessary data.

🡺**One order has at least one order line**

**🡺 One order line always belongs to certain order only**

3.

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| a. Data dependence:  - Data description is built with the application program, if there is a change in the data -> app program :be changed | Data independence:  -- Data description is built with the application program, if there is a change in the data -> app program :no need be changed |
| b. Structured data: is comprised of clearly defined data types whose pattern makes them easily searchable | Unstructured data: is comprised of data, not easily searchable, including format like audio, video and social media posting |
| c. Data: are simply facts or figures – bits of information but not information itself | -Information: when data are processed, interpreted, organized, structured or presented so as to make them meaningful/useful – called information |
| d. Database: a place to store data | -Repository: is a database that stores metadata |
| e. Data warehouse: is a concept where in historical data is stored and later used in analytics , using data mining tools | -ERP system: is a package software which helps in running day to day business of an organization and data involved is transactional data. |
| f. System development life cycle: is a conceptual model which includes policies and procedures for developing or altering systems throughout life cycles. | -Prototyping: is one of the most popularly used SDLC, used when customers do not know the exact project requirement beforehand. |
| i.Enterprise data model: a graphical model that shows the high-level entities for the organization and the relationships among those entities | -Project data model: a structure of collection of related data in a certain project |

4.

a. Driver’s name, address, and birth date: metadata -> describing a property of data

b. The fact that the driver’s name is a 30-character field : data -> structured data

c. A photo image of the driver: data -> unstructured data

d. An image of the driver’s fingerprint: data -> unstructured data

e. The make and serial number of the scanning device that was used to scan the fingerprint: metadata -> a fact describing the context of data.

f. f. The resolution (in megapixels) of the camera that was used to photograph the driver: metadata -> a fact describing the context of data.

g. The fact that the driver’s birth date must precede today’s date by at least 16 years: data -> unstructured data