HOMEWORK 1

Exercise 1:

Match the following terms and definitions

1. data	a. data placed in context or summarized
2. database application	b. application program(s)
3. constraint	c. facts, text, graphics, images, etc.
4. repository	d. a graphical model that shows the high-level entities for the
5. metadata	organization and the relationships among those entities
6. data warehouse	e. organized collection of related data
7. information	f. includes data definitions and constraints
8. user view	g. centralized storehouse for all data definitions
9. database management system	h. separation of data description from programs
10. data independence	i. a business management system that integrates all functions of the enterprise
11. database	j. logical description of portion of database
12. enterprise resource planning (ERP)	k. a software application that is used to create, maintain, and provide controlled access to user databases
13. systems development life cycle (SDLC)	l. a rule that cannot be violated by database users
14. prototyping	m. integrated decision support database
15. enterprise data model	n. consist of the enterprise data model and multiple user views
16. conceptual schema	o. a rapid approach to systems development
17. internal schema	p. consists of two data models: a logical model and a physical model
18. external schema	q. a comprehensive description of business data
	r. a structured, step-by-step approach to systems development

Exercise 2:

- Write SQL script to create database named “SMS (Student Management System)
- Write SQL script to create the table which satisfies these requirements:

1. Batchs :Stores information about class, contains :
    - BatchID : char(6) – Class ID – Primary Key(PK)
    - Year : int – school year – not null
    - Time : varchar(20) – Class duration (Ex : 13h30 – 17h30)
2. Students : Stores Student ‘s information, contain :
    - StdID : int – StudentID – Main Course(PK), Identity
    - FirstName : varchar(50) – First name and Middle name – Not Null
    - LastName : varchar(50) – Last name – Not Null
    - BatchID : char(6) – Class ID – Foreign Key (FK) , Not Null
    - Birthday : Datetime – Birthday
    - Address : varchar (100) – address – default “Ha Noi”
    - Email : varchar (50) – Email – Unique
3. Marks : Contain columns :
    - StdID : int – Student ID – Foreign Key, Not Null
    - Subject : varchar(10) – Subject – Not Null
    - Type : char (1) – Mark type (W-theory(writing), P-practice)
    - Mark : decimal (4,2) – Mark – Mark condition >=0 and <=25

    StdID, Subject and Type combined into Primary Key (PK).

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- Write SQL script to do following actions:

1. Delete the Primary Key and Foreign Key from tables (**Only delete the content, not the columns**)
2. Create a new Primary Key and Foreign Key for those tables with initial request .
3. Add 2 columns for table “Batchs”:
   - ClassRoom : tinyint
   - LabRoom : tinyint
4. Add information in those columns:

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BatchID	Year	Time	ClassRoom	LabRoom
C0809I	2008	13h30 - 17h30	1	1
C0812I	2008	13h30 - 17h30	2	2
C0909L	2009	17h30 - 19h30	2	2
T0906G	2009	7h30 - 11h30	1	1
T0908I	2009	13h30 - 17h30	3	3
T0909G	2009	7h30 - 11h30	2	2

Batchs table

StdID	Subject	Type	Mark
1	CF	W	12.50
1	C	W	15.25
1	C	P	14.00
2	CF	W	14.50
2	C	P	16.50
3	C	W	18.00
3	C	P	17.00
4	CF	W	13.50
4	C	P	15.50
5	C	W	12.50
5	C	P	17.50

Students table

StdID	FirstName	LastName	BatchID	Birthday	Address	Email
1	Nguyen Van	A	C0909L	12/3/1987 12:00:00 AM	Ha Noi	anv@yahoo.com
2	Tran Thi	B	T0909G	8/13/1988 12:00:00 AM	Hai Phong	btt@yahoo.com
3	Nguyen Van	C	T0909G	11/25/1984 12:00:00 AM	Nam Dinh	cnv@yahoo.com
4	Le Thi	D	T0908I	6/27/1987 12:00:00 AM	Hoa Binh	dlt@yahoo.com
5	Tran Van	E	T0906G	11/21/1987 12:00:00 AM	Ha Noi	etv@yahoo.com

Marks table

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