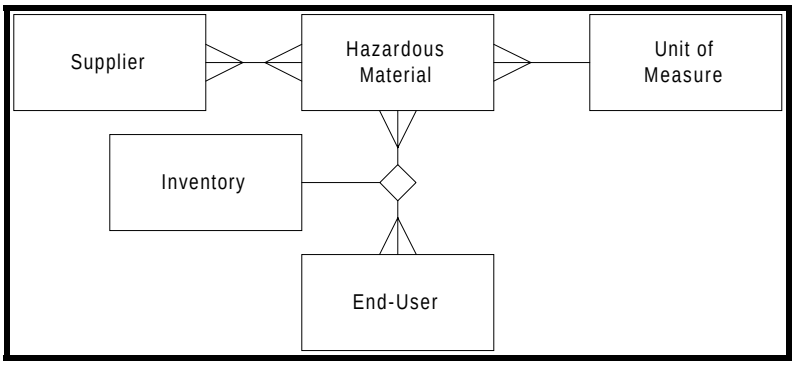
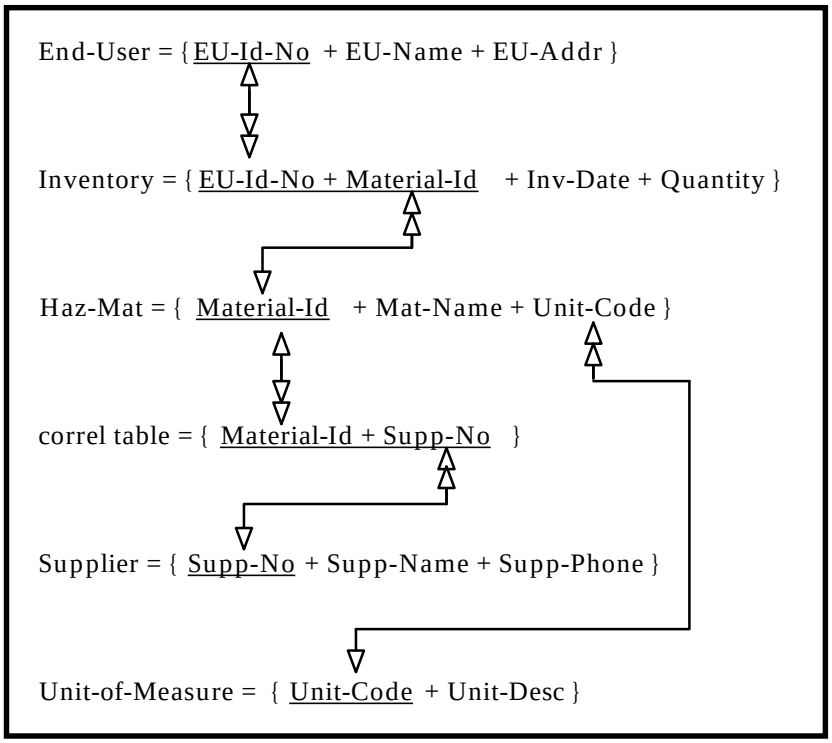
Problem Overview: This assignment requires that you use the Microsoft Access to create a database from the Central City Fire Department problem in your Data Modeling Assignment. The ERD from that assignment is:



Using this ERD, the following RSD can be generated:



Thus, this assignment requires that you define the six tables, the fields and their types, and then load data into the tables. After loading the data, you will be required to manipulate the database in several ways.

Problem Details: The fields (attributes) need to be defined with specific characteristics. Use the table below to guide you through this process.

Field Name	Type	Field Name	Type
EU-Addr	15 character text	Quantity	Integer Number
EU-Id-No	4 character text	Supp-Name	15 character text
EU-Name	15 character text	Supp-No	3 character text
Inv-Date	Date/Time	Supp-Phone	8 character text
Mat-Name	20 character text	Unit-Code	2 character text
Material-Id	5 character text	Unit-Desc	10 character text

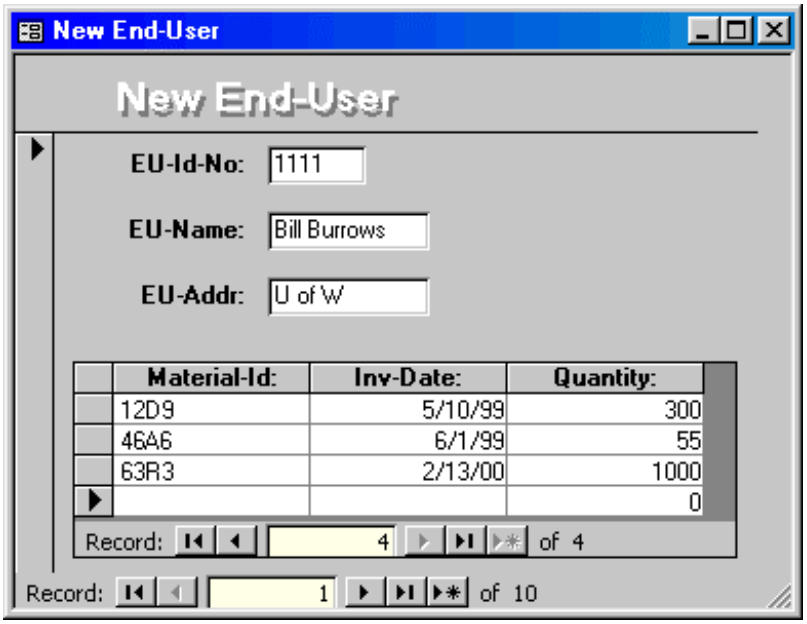
Use this field information when you define your six tables.

The specific data to be loaded is shown on page 5. You can reduce the chances of data input errors if you enforce “referential integrity” described in Tutorial 3. To do this, first enter the data into the End-User, Supplier, and Unit-of-Measure tables. Then, following the instructions beginning on A3.9, establish relationships between End-User and Inventory, between Haz-Mat and Inventory, between Haz-Mat and the correlation table, between Supplier and the correlation table, and finally between Unit-of-Measure and the Haz-Mat table. Then you can enter data into the Haz-Mat table, then the Inventory table, and finally the correlation table.

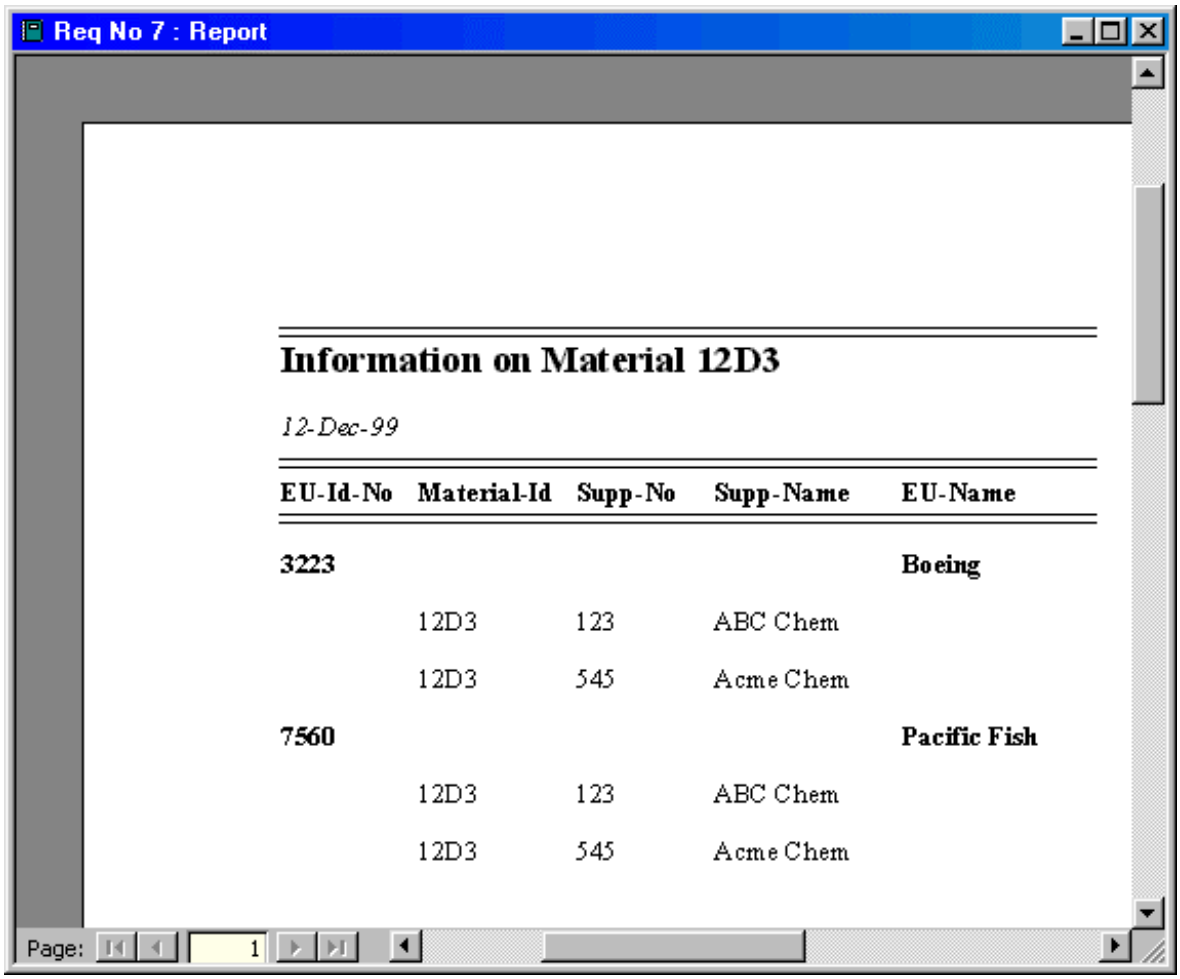
Requirements: After loading the database and checking for data errors, use the database to complete the following requirements:

1. Create a query that shows of all hazardous materials that are currently associated with a supplier. This query should include Material-Id, Mat-Name, Supp-No, Supp-Name, and Supp-Phone.
2. Create a query that shows the current inventory status. This query should include the EU-Id-No, EU-Name, Mat-Name, Inv-Date, Quantity, and Unit-Desc. Show only those end users that have an entry in the Inventory table. Sort this query in ascending order by EU-Id-No.
3. Repeat the query in requirement number 2 except list all end users regardless of whether they currently have any hazardous materials in the Inventory table. To do this, right-click on the link between End-Users and Inventory and select the “Join Properties” option from the pop-up menu. Select option 2 from the “Join Properties” dialog box. Repeat this for the link between Inventory and Haz-Mat and between Haz-Mat and Unit-of-Measure but for these two links, select option 3 from the “Join Properties” dialog box.

4. Create a query that shows information for Material-Id 12D3. This information should include Supp-No, Supp-Name, EU-Id-No, and EU-Name. Note that this query will not look too useful because of repeating fields in the rows (see requirement 7 below).
5. Create a query showing the total amount of each hazardous material in the inventory. There should be one line per material (i.e., one line for Sulfuric Acid). This line should include Mat-Name, Unit-Desc, and a calculated sum of the material's Quantity.
6. Create a Form with a subform to allow the entry of a new end user and information about the hazardous materials inventory that the end user has on site (use the Form Wizard). Using this form, scroll through the records until the user with EU-Id-No 1111 is displayed. Using this record, add a third hazardous material with an ID of 63R3, inventoried on the day you enter the data (that's today), and a quantity of 1000. A sample form is shown below.



7. Using the query you defined in requirement number 4, create a report that presents the result in a more user-friendly way (see example below).



To Turn In: For the queries in requirements 1 through 5, open the query and use the Print… command from the File menu to print the query results.

For the Form in requirement 6, open the form and scroll through the records until you come to the record for EU-Id-No 1111. With this record displayed, choose the Print… command from the File menu. In the "Print Range" box, click on "Selected Record(s)" and then click on OK.

For requirement #7, select the report and then choose the Print… command from the File menu.

Data Tables

Supplier Table

Supp-No	Supp-Name	Supp-Phone
123	ABC Chem	233-4433
410	PacCoast Chem	487-4666
422	Jorgen Corp	911-8877
545	Acme Chem	532-9999
560	NASCO	322-1777
690	Smith Supply	860-8211
730	Olympic Chem	592-0000
800	KHX	545-9800

End-User Table

EU-Id-No	EU-Name	EU-Addr
1111	**Your Name**	**U of W**
2312	Black Manuf	512 15th NW
3223	Boeing	100 1st West
4005	Govic Chem	833 NW 1st
4930	Ace Tank	417 Minor
6363	ABC Manuf	1415 Smith St
7560	Pacific Fish	123 Main
7663	Sally's Soap	201 Lynn Ave
8559	Clark Metals	673 SW 8th
9275	Ron's Roofs	8110 Second

Inventory Table

EU-Id-No	Material-Id	Inv-Date	Quantity
3223	12D3	2/5/99	200
7560	12D3	6/6/99	150
1111	12D9	5/10/99	300
2312	12D9	12/9/98	250
9275	12D9	5/10/99	250
2312	16X3	11/2/98	1,300
3223	16X3	3/10/99	2,450
8559	16X3	1/2/99	1,500
4930	17X9	4/6/99	1,400
7663	33R3	5/8/99	850
9275	33R3	6/3/99	400
1111	46A6	6/1/99	55
4930	47Q6	1/15/99	50
2312	54F3	4/15/99	200
3223	54F3	8/8/99	120
7663	54F3	8/13/99	950
8559	54F3	2/10/99	190
4930	63R3	3/16/99	300
7663	63R3	7/10/99	125
9275	63R3	10/5/99	500

Haz-Mat Table

Material-Id	Mat-Name	Unit-Code
12D3	Sulfuric Acid	G
12D9	Sulfuric Acid	G
16X3	Hydrogen Peroxide	G
16A7	Nitroglycerin	Qt
17X9	Hydrogen Peroxide	G
33R3	Ammonium Hydroxide	L
46A6	Ammonium Nitrate	Gr
47Q6	Calcium Arsenate	P
54F3	Sodium Hydroxide	P
59T3	Sodium Hydroxide	P
63R3	Potassium Hydroxide	L

Mat/Supp Correlation Table

Material-Id	Supp-No
12D3	123
12D3	545
16X3	123
16X3	690
16X3	800
17X9	410
17X9	422
17X9	560
17X9	690
33R3	123
46A6	410
46A6	560
46A6	800
54F3	422
59T3	410
59T3	545

Unit-of-Measure Table

Unit-Code	Unit-Desc
G	Gallon
Gr	Gram
L	Liter
Qt	Quart
P	Pound