Lab 5 – Physical Database Design

Deliverable

Word or PDF File containing your work

Set up

In this lab, you will apply the concepts learned in this week's lectures and readings. You'll need access to a SQL Server instance to perform these tasks. You can use either the iSchool resource or install SQL Server Developer or Express edition on your own computer.

It may also be helpful to review the W3 Schools chapter on creating SQL tables here: http://www.w3schools.com/sql/sql_create_table.asp

Steps

Create a blank document to record your answers to the questions called out below. Ensure your name is at the top of the document! Any diagrams should be done using Visio 2010 and paste the diagram into your Word Document.

1. From your textbook, answer the following questions:
    a. Page 233, 5-4, 5-5, 5-6, 5-8
    b. Page 234, 5-32, 5-33
2. Using the following diagram, code the CREATE TABLE statement to create this table in SQL Server.

Product		
PK	**ProductID**	**int identity**
	ProductName ProductDescription **QtyOnHand**	**char(30)** varchar(255) **int**

   Set the QtyOnHand Default property to 0 (in SQL!). You can do this using the DEFAULT constraint in the CREATE TABLE statement or in an ALTER TABLE statement. Any fields in bold are required (see NOT NULL here http://www.w3schools.com/sql/sql_notnull.asp), and ProductID is the primary key. See this thread for how to do this: http://www.w3schools.com/sql/sql_create_table.asp. You'll want to review each chapter in that tutorial.
3. Copy and paste your sql code into your Word document and submit this document. (Note: we will be using this table later, so be sure to actually run this command!)

Questions from the book:

5.4: What are the majpr inputs into physical database design?

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5.5: What are the key decisions in physical database design?

5.6: What decisions have to be made to develop a field specification?

5.8: What are the objectives for selecting a data type for a field?

5.32: Suppose you are designing a default value for the age field in a student record at your university. What possible values would you consider and why? How might the default vary by other characteristics about the student, such as school within university or degree sought?

5.33: When a student has not chosen a major at a university, the university often enters a value of "Undecided" for the major field. Is "Undecided" a way to represent the null value? Should it be used as a default value? Justify your answer carefully.