



ACCESS WORKBENCH EXERCISES

In the “Access Workbench Exercises” in Chapters 1 and 2, you created a database for the Wedgewood Pacific Corporation (WPC) of Seattle, Washington. In this set of exercises, you’ll:

- Create and run queries against the database by using Access SQL.
- Create and run queries against the database by using Access QBE.
- Create tables and relationships by using Access SQL.
- Populate tables by using Access SQL.

AW.3.1 Using Access SQL, create and run queries to answer the questions that follow. Save each query using the query name format `SQLQuery-AWE-3-1-##` where the `##` sign is replaced by the letter designator of the question. For example, the first query will be saved as `SQLQuery-AWE-3-1-A`.

- A. What projects are in the PROJECT table? Show all information for each project.
- B. What are the ProjectID, ProjectName, StartDate, and EndDate values of projects in the PROJECT table?
- C. What projects in the PROJECT table started before August 1, 2014? Show all the information for each project.
- D. What projects in the PROJECT table have not been completed? Show all the information for each project.
- E. Who are the employees assigned to each project? Show ProjectID, EmployeeNumber, LastName, FirstName, and Phone.
- F. Who are the employees assigned to each project? Show ProjectID, ProjectName, and Department. Show EmployeeNumber, LastName, FirstName, and Phone.
- G. Who are the employees assigned to each project? Show ProjectID, ProjectName, Department, and Department Phone. Show EmployeeNumber, LastName, FirstName, and Employee Phone. Sort by ProjectID, in ascending order.
- H. Who are the employees assigned to projects run by the marketing department? Show ProjectID, ProjectName, Department, and Department Phone. Show

EmployeeNumber, LastName, FirstName, and Employee Phone. Sort by ProjectID, in ascending order.

- I. How many projects are being run by the marketing department? Be sure to assign an appropriate column name to the computed results.
- J. What is the total MaxHours of projects being run by the marketing department? Be sure to assign an appropriate column name to the computed results.
- K. What is the average MaxHours of projects being run by the marketing department? Be sure to assign an appropriate column name to the computed results.
- L. How many projects are being run by each department? Be sure to display each DepartmentName and to assign an appropriate column name to the computed results.

AW.3.2 Using Access QBE, create and run new queries to answer the questions in exercise AW.3.1. Save each query using the query name format QBEQuery-AWE-3-1-## where the ## sign is replaced by the letter designator of the question. For example, the first query will be saved as QBEQuery-AWE-3-1-A.

AW.3.3 WPC has decided to keep track of computers used by the employees. In order to do this, two new tables will be added to the database. The schema for these tables, as related to the existing EMPLOYEE table, is:

EMPLOYEE (EmployeeNumber, FirstName, LastName, Department,
Phone, Email)
COMPUTER (SerialNumber, Make, Model, ProcessorType,
ProcessorSpeed, MainMemory, DiskSize)
COMPUTER_ASSIGNMENT (SerialNumber, EmployeeNumber,
DateAssigned, DateReassigned)

The referential integrity constraints are:

Serial Number in COMPUTER_ASSIGNMENT must exist in
SerialNumber in COMPUTER
EmployeeNumber in COMPUTER_ASSIGNMENT must exist in
EmployeeNumber in EMPLOYEE

EmployeeNumber is a surrogate key and never changes. Employee records are never deleted from the database. SerialNumber is not a surrogate key because it is not generated by the database. However, a computer's SerialNumber never changes, and, therefore, there is no need to cascade updates. When a computer is at its end of life, the record in COMPUTER for that computer and all associated records in COMPUTER_ASSIGNMENT are deleted from the database.

- A. Figure 3-23 shows the column characteristics for the WPC COMPUTER table. Using the column characteristics, use Access SQL to create the COMPUTER table and its associated constraints in the WPC.accdb database. Are there any table characteristics that cannot be created in SQL? If so, what are they? Use the Access GUI to finish setting table characteristics, if necessary.
- B. The data for the COMPUTER table are in Figure 3-24. Use Access SQL to enter these data into your COMPUTER table.

(Continued)

FIGURE 3-23

Database Column Characteristics for the COMPUTER Table

Column Name	Type	Key	Required	Remarks
SerialNumber	Number	Primary Key	Yes	Long Integer
Make	Text (12)	No	Yes	Must be "Dell" or "Gateway" or "HP" or "Other"
Model	Text (24)	No	Yes	
ProcessorType	Text (24)	No	No	
ProcessorSpeed	Number	No	Yes	Double [3,2], Between 1.0 and 4.0
MainMemory	Text (15)	No	Yes	
DiskSize	Text (15)	No	Yes	

- C. Figure 3-25 shows the column characteristics for the WPC COMPUTER_ASSIGNMENT table. Using the column characteristics, use Access SQL to create the COMPUTER_ASSIGNMENT table and the associated constraints in the WPC.accdb database. Are there any table or relationship settings or characteristics that cannot be created in SQL? If so, what are they? Use the Access GUI to finish setting table characteristics and relationship settings, if necessary.
- D. The data for the COMPUTER_ASSIGNMENT table are in Figure 3-26. Use Access SQL to enter these data into your COMPUTER_ASSIGNMENT table.

FIGURE 3-24

WPC COMPUTER Data

Serial Number	Make	Model	Processor Type	Processor Speed	Main Memory	Disk Size
9871234	HP	Pavilion 500-210qe	Intel i5-4530	3.00	6.0 Gbytes	1.0 Tbytes
9871245	HP	Pavilion 500-210qe	Intel i5-4530	3.00	6.0 Gbytes	1.0 Tbytes
9871256	HP	Pavilion 500-210qe	Intel i5-4530	3.00	6.0 Gbytes	1.0 Tbytes
9871267	HP	Pavilion 500-210qe	Intel i5-4530	3.00	6.0 Gbytes	1.0 Tbytes
9871278	HP	Pavilion 500-210qe	Intel i5-4530	3.00	6.0 Gbytes	1.0 Tbytes
9871289	HP	Pavilion 500-210qe	Intel i5-4530	3.00	6.0 Gbytes	1.0 Tbytes
6541001	Dell	OptiPlex 9020	Intel i7-4770	3.40	8.0 GBytes	1.0 Tbytes
6541002	Dell	OptiPlex 9020	Intel i7-4770	3.40	8.0 GBytes	1.0 Tbytes
6541003	Dell	OptiPlex 9020	Intel i7-4770	3.40	8.0 GBytes	1.0 Tbytes
6541004	Dell	OptiPlex 9020	Intel i7-4770	3.40	8.0 GBytes	1.0 Tbytes
6541005	Dell	OptiPlex 9020	Intel i7-4770	3.40	8.0 GBytes	1.0 Tbytes
6541006	Dell	OptiPlex 9020	Intel i7-4770	3.40	8.0 GBytes	1.0 Tbytes

FIGURE 3-25

Database Column Characteristics for the COMPUTER_ASSIGNMENT Table

Column Name	Type	Key	Required	Remarks
SerialNumber	Number	Primary Key, Foreign Key	Yes	Long Integer
EmployeeNumber	Number	Primary Key, Foreign Key	Yes	Long Integer
DateAssigned	Date/Time	Primary Key	Yes	Medium Date
DateReassigned	Date/Time	No	No	Medium Date

- E. Who is currently using which computer at WPC? Create an appropriate SQL query to answer this question. Show SerialNumber, Make, and Model. Show EmployeeID, LastName, FirstName, Department, and Employee Phone. Sort first by Department and then by employee LastName. Save this query using the query naming rules in exercise AW3.1.
- F. Who is currently using which computer at WPC? Create an appropriate QBE query to answer this question. Show SerialNumber, Make, Model, ProcessorType, and ProcessorSpeed. Show the EmployeeID, LastName, FirstName, Department, and Employee Phone. Sort first by Department and then by employee LastName. Save this query using the query naming rules in exercise AW3.2.

FIGURE 3-26

WPC COMPUTER_ASSIGNMENT Data

SerialNumber	EmployeeNumber	DateAssigned	DateReassigned
9871234	11	15-Sep-2014	21-Oct-2014
9871245	12	15-Sep-2014	21-Oct-2014
9871256	4	15-Sep-2014	
9871267	5	15-Sep-2014	
9871278	8	15-Sep-2014	
9871289	9	15-Sep-2014	
6541001	11	21-Oct-2014	
6541002	12	21-Oct-2014	
6541003	1	21-Oct-2014	
6541004	2	21-Oct-2014	
6541005	3	21-Oct-2014	
6541006	6	21-Oct-2014	
9871234	7	21-Oct-2014	
9871245	10	21-Oct-2014	