BIT795 Relational Database Systems

COLONIAL ADVENTURE TOURS

Case study

(Adapted from Pratt, P., & Last, M. (2015). Concepts of database management (8th ed.), pp. 16– 19. Boston, MA: Cengage Learning.)

Colonial Adventure Tours is a small business that organizes day-long, guided trips of New England. To support the company's growing business, management uses a database to ensure that the company's data is current, accurate, and easily accessible.

In running the guided tours, management gathers and organizes information about guides, trips, customers, and reservations. Table 1 shows sample guide data. Each guide is identified by a unique four- character code that consists of two uppercase letters and two digits. For each guide, the table also stores the guide's last name, first name, address, city, state, postal code, telephone number, and hire date.

Table 1 Guide

GuideNum	LastName	FirstName	Address	City	State	PostalCode	PhoneNum	HireDate
AM01	Abrams	Miles	54 Quest Ave.	Williamsburg	MA	01096	617-555-6032	6/3/2012
BR01	Boyers	Rita	140 Oakton Rd.	Jaffrey	NH	03452	603-555-2134	3/4/2012
DH01	Devon	Harley	25 Old Ranch Rd.	Sunderland	MA	01375	781-555-7767	1/8/2012
GZ01	Gregory	Zach	7 Moose Head Rd.	Dummer	NH	03588	603-555-8765	11/4/2012
KS01	Kiley	Susan	943 Oakton Rd.	Jaffrey	NH	03452	603-555-1230	4/8/2013
KS02	Kelly	Sam	9 Congaree Ave.	Fraconia	NH	03580	603-555-0003	6/10/2013
MR01	Marston	Ray	24 Shenandoah Rd.	Springfeld	MA	01101	781-555-2323	9/14/2015
RH01	Rowan	Hal	12 Heather Rd.	Mount Desert	ME	04660	207-555-9009	6/2/2014
SL01	Stevens	Lori	15 Riverton Rd.	Coventry	VT	05825	802-555-3339	9/5/2014
UG01	Unser	Glory	342 Pineview St.	Danbury	CT	06810	203-555-8534	2/2/2015

Table 2 shows sample trip data for Colonial Adventure Tours. Each trip is identified by a unique ID number. In addition, management tracks the trip name, the trip's starting location, the state in which the trip originates, the trip's total distance (in miles), the trip's maximum group size, the trip's type, and the trip's season.

Table 2 Trip

TripID	TripName	StartLocation	State	Distance	MaxGrpSize	Type	Season
1	Arethusa Falls	Harts Location	NH	5	10	Hiking	Summer
2	Mt Ascutney - North Peak	Weathersfeld	VT	5	6	Hiking	Late Spring
3	Mt Ascutney - West Peak	Weathersfeld	VT	6	10	Hiking	Early Fall
4	Bradbury Mountain Ride	Lewiston-Auburn	ME	25	8	Biking	Early Fall
5	Baldpate Mountain	North Newry	ME	6	10	Hiking	Late Spring
6	Blueberry Mountain	Batchelders Grant	ME	8	8	Hiking	Early Fall
7	Bloomfeld - Maidstone	Bloomfeld	CT	10	6	Paddling	Late Spring
8	Black Pond	Lincoln	NH	8	12	Hiking	Summer
9	Big Rock Cave	Tamworth	NH	6	10	Hiking	Summer
10	Mt. Cardigan - Firescrew	Orange	NH	7	8	Hiking	Summer
11	Chocorua Lake Tour	Tamworth	NH	12	15	Paddling	Summer
12	Cadillac Mountain Ride	Bar Harbor	ME	8	16	Biking	Early Fall
13	Cadillac Mountain	Bar Harbor	ME	7	8	Hiking	Late Spring
14	Cannon Mtn	Franconia	NH	6	6	Hiking	Early Fall
15	Crawford Path Presidentials Hike	Crawford Notch	NH	16	4	Hiking	Summer
16	Cherry Pond	Whitefeld	NH	6	16	Hiking	Spring
17	Huguenot Head Hike	Bar Harbor	ME	5	10	Hiking	Early Fall
18	Low Bald Spot Hike	Pinkam Notch	NH	8	6	Hiking	Early Fall
19	Mason's Farm	North Stratford	CT	12	7	Paddling	Late Spring
20	Lake Mephremagog Tour	Newport	VT	8	15	Paddling	Late Spring
21	Long Pond	Rutland	MA	8	12	Hiking	Summer
22	Long Pond Tour	Greenville	ME	12	10	Paddling	Summer
23	Lower Pond Tour	Poland	ME	8	15	Paddling	Late Spring
24	Mt Adams	Randolph	NH	9	6	Hiking	Summer
25	Mount Battie Ride	Camden	ME	20	8	Biking	Early Fall
26	Mount Cardigan Hike	Cardigan	NH	4	16	Hiking	Late Fall
27	Mt. Chocorua	Albany	NH	6	10	Hiking	Spring
28	Mount Garfeld Hike	Woodstock	NH	5	10	Hiking	Early Fall
29	Metacomet-Monadnock Trail Hike	Pelham	MA	10	12	Hiking	Late Spring
30	McLennan Reservation Hike	Tyringham	MA	6	16	Hiking	Summer
31	Missisquoi River - VT	Lowell	VT	12	10	Paddling	Summer
32	Northern Forest Canoe Trail	Stark	NH	15	10	Paddling	Summer
33	Park Loop Ride	Mount Desert Island	ME	27	8	Biking	Late Spring
34	Pontook Reservoir Tour	Dummer	NH	15	14	Paddling	Late Spring
35	Pisgah State Park Ride	Northborough	NH	12	10	Biking	Summer
36	Pondicherry Trail Ride	White Mountains	NH	15	16	Biking	Late Spring
37	Seal Beach Harbor	Bar Harbor	ME	5	16	Hiking	Early Spring
38	Sawyer River Ride	Mount Carrigain	NH	10	18	Biking	Early Fall
39	Welch and Dickey Mountains Hike	Thorton	NH	5	10	Hiking	Summer
40	Wachusett Mountain	Princeton	MA	8	8	Hiking	Early Spring
41	Westfeld River Loop	Fort Fairfeld	ME	20	10	Biking	Late Spring

Table 3 shows sample customer data for Colonial Adventure Tours. Each customer is identified by a unique customer number. In addition, management stores each customer's last name, first name, address, city, state, postal code, and telephone number.

Table 3 Customer

CustomerNum	LastName	FirstName	Address	City	State	PostalCode	Phone
101	Northfold	Liam	9 Old Mill Rd.	Londonderry	NH	03053	603-555-7563
102	Ocean	Arnold	2332 South St. Apt 3	Springfeld	MA	01101	413-555-3212
103	Kasuma	Sujata	132 Main St. #1	East Hartford	CT	06108	860-555-0703
104	Goff	Ryan	164A South Bend Rd.	Lowell	MA	01854	781-555-8423
105	McLean	Kyle	345 Lower Ave.	Wolcott	NY	14590	585-555-5321
106	Morontoia	Joseph	156 Scholar St.	Johnston	RI	02919	401-555-4848
107	Marchand	Quinn	76 Cross Rd.	Bath	NH	03740	603-555-0456
108	Rulf	Uschi	32 Sheep Stop St.	Edinboro	PA	16412	814-555-5521
109	Caron	Jean Luc	10 Greenfeld St.	Rome	ME	04963	207-555-9643
110	Bers	Martha	65 Granite St.	York	NY	14592	585-555-0111
112	Jones	Laura	373 Highland Ave.	Somerville	MA	02143	857-555-6258
115	Vaccari	Adam	1282 Ocean Walk	Ocean City	NJ	08226	609-555-5231
116	Murakami	Iris	7 Cherry Blossom St.	Weymouth	MA	02188	617-555-6665
119	Chau	Clement	18 Ark Ledge Ln.	Londonderry	VT	05148	802-555-3096
120	Gernowski	Sadie	24 Stump Rd.	Athens	ME	04912	207-555-4507
121	Bretton-Borak	Siam	10 Old Main St.	Cambridge	VT	05444	802-555-3443
122	Hefferson	Orlauh	132 South St. Apt 27	Manchester	NH	03101	603-555-3476
123	Barnett	Larry	25 Stag Rd.	Fairfeld	CT	06824	860-555-9876
124	Busa	Karen	12 Foster St.	South Windsor	CT	06074	857-555-5532
125	Peterson	Becca	51 Fredrick St.	Albion	NY	14411	585-555-0900
126	Brown	Brianne	154 Central St.	Vernon	CT	06066	860-555-3234

Table 4 shows sample reservations data for Colonial Adventure Tours. Each reservation is identified by a unique reservation number that uses the last two digits of the current year followed by a five-digit number that is incremented sequentially as each reservation is received. The table also stores the trip number, the trip date, the number of persons, the trip price per person, any additional fees for transportation and equipment rentals, and the customer number.

Table 4 Reservation

ReservationID	TripID	TripDate	NumPersons	TripPrice	OtherFees	CustomerNum
1600001	40	3/26/2016	2	$55.00	$0.00	101
1600002	21	6/08/2016	2	$95.00	$0.00	101
1600003	28	9/12/2016	1	$35.00	$0.00	103
1600004	26	10/16/2016	4	$45.00	$15.00	104
1600005	39	6/25/2016	5	$55.00	$0.00	105
1600006	32	6/18/2016	1	$80.00	$20.00	106
1600007	22	7/09/2016	8	$75.00	$10.00	107
1600008	28	9/12/2016	2	$35.00	$0.00	108
1600009	38	9/11/2016	2	$90.00	$40.00	109
1600010	2	5/14/2016	3	$25.00	$0.00	102
1600011	3	9/15/2016	3	$25.00	$0.00	102
1600012	1	6/12/2016	4	$15.00	$0.00	115
1600013	8	7/09/2016	1	$20.00	$5.00	116
1600014	12	10/01/2016	2	$40.00	$5.00	119
1600015	10	7/23/2016	1	$20.00	$0.00	120
1600016	11	7/23/2016	6	$75.00	$15.00	121
1600017	39	6/18/2016	3	$20.00	$5.00	122
1600018	38	9/18/2016	4	$85.00	$15.00	126
1600019	25	8/29/2016	2	$110.00	$25.00	124
1600020	28	8/27/2016	2	$35.00	$10.00	124
1600021	32	6/11/2016	3	$90.00	$20.00	112
1600022	21	6/08/2016	1	$95.00	$25.00	119
1600024	38	9/11/2016	1	$70.00	$30.00	121
1600025	38	9/11/2016	2	$70.00	$45.00	125
1600026	12	10/01/2016	2	$40.00	$0.00	126
1600029	4	9/19/2016	4	$105.00	$25.00	120
1600030	15	7/25/2016	6	$60.00	$15.00	104

Table 5 named TripGuides is used to relate trips and guides. It includes the trip number and the guide number. The trip number in the TripGuides table matches a trip number in the Trip table, and the guide number in the TripGuides table matches a guide number in the Guide table.

Table 5 TripGuides

TripID	GuideNum		TripID	GuideNum
1	GZ01		19	DH01
1	RH01		20	SL01
2	AM01		21	AM01
2	SL01		22	UG01
3	SL01		23	DH01
4	BR01		23	SL01
4	GZ01		24	BR01
5	KS01		25	BR01
5	UG01		26	GZ01
6	RH01		27	GZ01
7	SL01		28	BR01
8	BR01		29	DH01
9	BR01		30	AM01
10	GZ01		31	SL01
11	DH01		32	KS01
11	KS01		33	UG01
11	UG01		34	KS01
12	BR01		35	GZ01
13	RH01		36	KS02
14	KS02		37	RH01
15	GZ01		38	KS02
16	KS02		39	BR01
17	RH01		40	DH01
18	KS02		41	BR01