Answers to Week 2 Exercises

Exercise 1

The DIVESHOP database (available on the database server) is a database of a small company that sells diving vacation tours.

(a) Use the DIVEORDS table in this database to answer the following questions:

- What is the most expensive one-person vacation by for which the customers paid with Visa? (One person vacation means only one person went on the vacation, rather than a group.)

  ○ **`select * from DIVEORDS`**
    `where No_Of_People=1 and PaymentMethod="Visa"`
    `order by VacationCost desc limit 1;`

  ○ This returns an empty set, though, since no vacation satisfies the requirement. (Sorry, this was an oversight on my part.)

- What is the total cost of all vacations for which the customers paid with Visa?

  ○ **`select sum(VacationCost) from DIVEORDS`**
    `where PaymentMethod="Visa";`

- What was customer number of the person whose vacation was the most expensive *per person*. (The per-person cost is the total cost of a vacation divided by the number of people who went on the vacation.)

  ○ **`select Customer_No from DIVEORDS`**
    `order by (VacationCost / No_Of_People) desc limit 1;`

- What is the average cost of vacations per person? (Note: not per *order*, but per *person*. Hint: you will *not* need the AVG function for this.)

  ○ **`select sum(VacationCost) / sum(No_Of_People) from DIVEORDS;`**

(b) Use the BIOLIFE table in the database to answer the following questions:

- How many fishes have scientific names ("Species_Name") that end in "us" or "is"?

  ○ **`select count(*) from BIOLIFE`**
    `where Species_Name like "%us" or Species_Name like "%is";`

- What is the longest fish whose scientific name does *not* end in "us" or "is¨?

  ○ **`select Species_Name from BIOLIFE`**
    `where not (Species_Name like "%us" or Species_Name like "%is")`
    `order by Length_cm desc limit 1;`

(c) Use the SITES table to answer the following question:

- From among the sites requires "Beginning" skill level and are at least 20 m deep, which one is the closest to the nearest town?

- **`select Site_Name from SITES`**
  `where Skill_Level="Beginning" and Depth_m>=20`
  `order by Distance_from_Town_km limit 1;`

Exercise 2

Design and create a database table that would store information about customers of an online store. In particular, the database needs to customer's name, postal address, email address, credit card number, as well as username and password. It should also record the last time the customer logged into to the store's website and the last time the customer made a purchase. After you create the table enter data for 10 customers. Then write a query that would return the email addresses of customers who have a credit card on file *and* have logged into the website in 2011 but who have *not* made a purchase this year.

```
create table customer (
 name varchar(100),
 username varchar(20),
 password varchar(20),
 email_address varchar(100),
 postal_address varchar(200),
 cc_number varchar(16),
 last_login datetime,
 last_purchase datetime
);


insert into customer values (
 "Obiwan Kenobi",
 "kenobio",
 "yoos3tehf0rc3",
 "obiwan@kenobio.com",
 "The Rebel Base, Endor",
 "1294738292939282",
 "2011-09-15 02:20",
 "2008-02-10 09:10");
```

(Do this 10 times.)

```
select email_address from customer
where cc_number is not null
 and last_login > "2011"
 and last_purchase < "2011";
```