**INF1343, Winter 2012, Quiz 5**

_____

write your name above

**a)** Bob, the owner of Diveshop, wants to find out the total number of rentals *for each equipment class.* He wants to only count rentals, not sales. He is only interested in seeing the numbers for those equipment classes that had at least 20 rentals. Write a query that would provide Bob with the desired information. (The expected output of this query is shown below.) **A sheet with create statements for the Diveshop database is provided for your reference.**

```
+-----------------+-------------+
| equipment_class | total_count |
+-----------------+-------------+
| Suit            |          49 |
| Mask            |          21 |
| Buoyancy        |          21 |
+-----------------+-------------+
```

*The query:*

```
select stocked_item.equipment_class,
       sum(order_item.quantity) as total_count
from stocked_item
  join order_item using (item_id)
where order_item.rental_or_sale="rental"
group by stocked_item.equipment_class
having total_count >= 20
order by total_count desc;
```

*Notes:*

- *There is no field called "total_count". If there were, however, you wouldn't be able to use it without an aggregating function.*
- *You need to use "sum" not "count".*

**b)** Bob is tired of having to write SQL statements and has hired a contractor to build a web interface to the database. As Bob is reviewing the contractor's work, he is finding statements such as this:

```
query_template = """select customer.name, destination.destination_name
from destination
  join vacation_order using(destination_id)
  join customer using (customer_id)
where customer.customer_id="%s";
"""
```

Bob is puzzled by this, since it looks like an SQL query, but not quite. Explain to Bob what this statement does and how this chunk of SQL is going to be used. Make sure to mention where the missing value is going to come from.

*This Python statement sets the value of a Python variable query_template to a piece of text that will serve as a template for an SQL query. It's not a complete query, since it has a missing piece, represented by "%s". At a later point, the value of customer ID will be inserted into the query, replacing "%s". The customer ID might, for example, come from the customer as one of the form parameters. Replacing %s with the ID will produce an SQL query that will be sent to the database.*

**INF1343, Winter 2012, Quiz 3 — Create Statements for Some of the Tables in the Diveshop Database**

```
create table destination (
  destination_id int(11) not null,
  destination_name varchar(255),
  accommodations varchar(255),
  night_life varchar(255),
  body_of_water varchar(255),
  travel_cost double,
  primary key (destination_id)
);

create table site (
  site_id int(11) not null,
  destination_id int(11),
  site_name varchar(255),
  site_highlight varchar(255),
  site_notes varchar(255),
  distance_from_town_km double,
  depth_m double,
  visibility_m double,
  `current` varchar(255),
  skill_level varchar(255),
  primary key (site_id),
  foreign key (destination_id)
    references destination(destination_id)
);

create table species (
  species_id int(11) not null,
  category varchar(255),
  common_name varchar(255),
  species_name varchar(255),
  length_cm double,
  notes text,
  graphic_file varchar(255),
  primary key (species_id)
);

create table site_species (
  site_id int(11) not null,
  species_id int(11) not null,
  foreign key (site_id)
    references site(site_id),
  foreign key (species_id)
    references species(species_id)
);

create table customer (
  customer_id int(11) not null,
  name varchar(255) not null,
  street varchar(255),
  city varchar(255),
  state_prov varchar(255),
  zip_postal_code varchar(255),
  country varchar(255),
  phone varchar(255),
  first_contact datetime,
  primary key (customer_id)
);
```

```
create table shipment_method (
  shipment_method_id int(11) not null,
  shipment_method_name varchar(255) not null,
  cost decimal(9,2),
  primary key (shipment_method_id)
);

create table vacation_order (
  order_id int(11) not null,
  customer_id int(11),
  destination_id int(11),
  sale_date datetime,
  shipment_method_id int(11),
  shipment_cost decimal(9,2),
  payment_method varchar(255),
  cc_number varchar(255),
  cc_exp_date datetime,
  no_of_people smallint(6),
  depart_date datetime,
  return_date datetime,
  cost decimal(9,2),
  primary key (order_id),
  foreign key (customer_id)
    references customer(customer_id),
  foreign key (destination_id)
    references destination(destination_id),
  foreign key (shipment_method_id)
    references shipment_method(
                shipment_method_id)
);

create table stocked_item (
  item_id int(11) not null,
  description varchar(255),
  equipment_class varchar(255),
  on_hand smallint(6),
  reorder_point smallint(6),
  cost decimal(9,2),
  sale_price decimal(9,2),
  rental_price decimal(9,2),
  primary key (item_id)
);

create table order_item (
  order_id int(11),
  item_id int(11),
  rental_or_sale enum('rental', 'sale'),
  quantity smallint(6),
  line_note varchar(255),
  foreign key (order_id)
    references vacation_order(order_id),
  foreign key (item_id)
    references stocked_item(item_id)
);

-- Some tables are not shown, but you do not
-- need them for this quiz.
```