**8) Write the SQL that will be needed to answer the three most important questions using your data warehouse. This requires writing 3 SQL statements. (10 points)**

1. How are the various resorts performing financially?

I create a new fact table since my current fact tables had facts for room\_bookings and facts for event\_bookings. For an overall picture, I want just a bookings table with both sets of facts:

|  |
| --- |
| create table if not exists booking as (select evbk\_time\_id as time\_id, evbk\_evcst\_id as cst\_id, evbk\_rst\_id as rst\_id, evbk\_amount as amount from event\_booking);  insert into booking (select rmbk\_time\_id as time\_id, rmbk\_rmcst\_id as cst\_id, rmbk\_rst\_id as rst\_id, rmbk\_amount as amount from room\_booking); |

The most basic query, Resort Revenue with rollup:

|  |
| --- |
| select   r.RST\_NAME as Name,   sum(amount ) as revenue  from booking b  join resort r on b.RST\_ID = r.RST\_ID  group by r.RST\_NAME  with rollup; |

**Table 1: Revenue by Resort**

|  |  |
| --- | --- |
| Resort 1 | 1600.00 |
| Resort 2 | 1200.00 |
| Resort 3 | 2600.00 |
| Resort 4 | 1400.00 |
| Resort 5 | 2600.00 |
|  | 9400.00 |

Revenue by state:

|  |
| --- |
| select r.RST\_STATE as Name, sum(amount) as revenue  from booking b  join resort r on b.RST\_ID = r.RST\_ID  group by r.RST\_STATE  with rollup; |

**Table 2: Revenue by State**

|  |  |
| --- | --- |
| British Columbia | 1300.00 |
| California | 1400.00 |
| Illinois | 1300.00 |
| New York | 700.00 |

Revenue by Resort by Day of Week with rollup:

|  |
| --- |
| select r.RST\_NAME as Name, t.time\_dow as Dow, sum(amount) as revenue  from booking b  join resort r on b.RST\_ID = r.RST\_ID  join time t on b.TIME\_ID = t.TIME\_ID  group by name asc, dow asc  with rollup; |

**Table 3: Resort by DOW by Revenue**

|  |  |  |
| --- | --- | --- |
| Resort 1 | 2 | 200.00 |
| Resort 1 | 3 | 800.00 |
| Resort 1 | 4 | 600.00 |
| Resort 1 |  | 1600.00 |
| Resort 2 | 1 | 800.00 |
| Resort 2 | 7 | 400.00 |
| Resort 2 |  | 1200.00 |
| Resort 3 | 5 | 1200.00 |
| Resort 3 | 6 | 1400.00 |
| Resort 3 |  | 2600.00 |
| Resort 4 | 1 | 200.00 |
| Resort 4 | 3 | 600.00 |
| Resort 4 | 6 | 600.00 |
| Resort 4 |  | 1400.00 |
| Resort 5 | 1 | 400.00 |
| Resort 5 | 2 | 400.00 |
| Resort 5 | 5 | 400.00 |
| Resort 5 | 6 | 1400.00 |
| Resort 5 |  | 2600.00 |
|  |  | 9400.00 |

1. How are overnight guests utilizing the facilities?

Which Counties are Customers coming from?

|  |
| --- |
| select rc.RMCST\_CNTRY, count(\*)  from room\_booking rb  join room\_customer rc on rb.RMBK\_RMCST\_ID = rc.RMCST\_ID  group by rc.RMCST\_CNTRY; |

**Table 4: Country by Customer Count**

|  |  |
| --- | --- |
| Canada | 4 |
| United States | 16 |

What State are customers coming for each Resort State?

|  |
| --- |
| select r.RST\_STATE, rc.RMCST\_STATE, count(\*)  from room\_booking rb  join room\_customer rc on rb.RMBK\_RMCST\_ID = rc.RMCST\_ID  join resort r on rb.RMBK\_RST\_ID = r.RST\_ID  group by r.RST\_STATE, rc.RMCST\_STATE  with rollup; |

**Table 5: Resort State by Customer State by Count**

|  |  |  |
| --- | --- | --- |
| British Columbia | California | 1 |
| British Columbia | Ontario | 1 |
| British Columbia | Quebec | 2 |
| British Columbia | Texas | 1 |
| British Columbia |  | 5 |
| California | California | 5 |
| California | New York | 1 |
| California | Texas | 2 |
| California |  | 8 |
| Illinois | California | 2 |
| Illinois | Ontario | 1 |
| Illinois | Texas | 1 |
| Illinois |  | 4 |
| New York | California | 2 |
| New York | Texas | 1 |
| New York |  | 3 |
|  |  | 20 |

How much spending does each State account for?

|  |
| --- |
| select rc.RMCST\_STATE, sum(rb.RMBK\_AMOUNT)  from room\_booking rb  join room\_customer rc on rb.RMBK\_RMCST\_ID = rc.RMCST\_ID  group by rc.RMCST\_STATE  with rollup; |

**Table 6: State by Sum Spent**

|  |  |
| --- | --- |
| California | 2300.00 |
| New York | 100.00 |
| Ontario | 800.00 |
| Quebec | 400.00 |
| Texas | 1100.00 |
|  | 4700.00 |

1. How are Event Groups using the facilities?

What States do Event Groups come from?

|  |
| --- |
| select ec.EVCST\_STATE, count(\*)  from event\_booking eb  join event\_customer ec on eb.EVBK\_EVCST\_ID = ec.EVCST\_ID  group by ec.EVCST\_STATE  with rollup; |

**Table 7: Event Groups by State**

|  |  |
| --- | --- |
| California | 5 |
| New York | 1 |
| Ontario | 2 |
| Quebec | 2 |
| Texas | 10 |
|  | 20 |

How many Events does each State account for by Resort?

|  |
| --- |
| select ec.EVCST\_CITY, r.RST\_NAME, count(\*)  from event\_booking eb  join event\_customer ec on eb.EVBK\_EVCST\_ID = ec.EVCST\_ID  join time t on eb.EVBK\_TIME\_ID = t.TIME\_ID  join resort r on eb.EVBK\_RST\_ID = r.RST\_ID group by ec.EVCST\_CITY, r.RST\_NAME  with rollup; |

**Table 8: Group City by Resort by Count**

|  |  |  |
| --- | --- | --- |
| Austin | Resort 2 | 2 |
| Austin | Resort 3 | 1 |
| Austin | Resort 4 | 1 |
| Austin | Resort 5 | 1 |
| Austin |  | 5 |
| Berkeley | Resort 1 | 1 |
| Berkeley | Resort 4 | 1 |
| Berkeley |  | 2 |
| Dallas | Resort 1 | 3 |
| Dallas | Resort 3 | 1 |
| Dallas | Resort 5 | 1 |
| Dallas |  | 5 |
| Montreal | Resort 5 | 2 |
| Montreal |  | 2 |
| New York City | Resort 2 | 1 |
| New York City |  | 1 |
| San Francisco | Resort 1 | 1 |
| San Francisco | Resort 3 | 1 |
| San Francisco | Resort 4 | 1 |
| San Francisco |  | 3 |
| Toronto | Resort 3 | 1 |
| Toronto | Resort 5 | 1 |
| Toronto |  | 2 |
|  |  | 20 |

**9) Create a visualization for your first management question.**

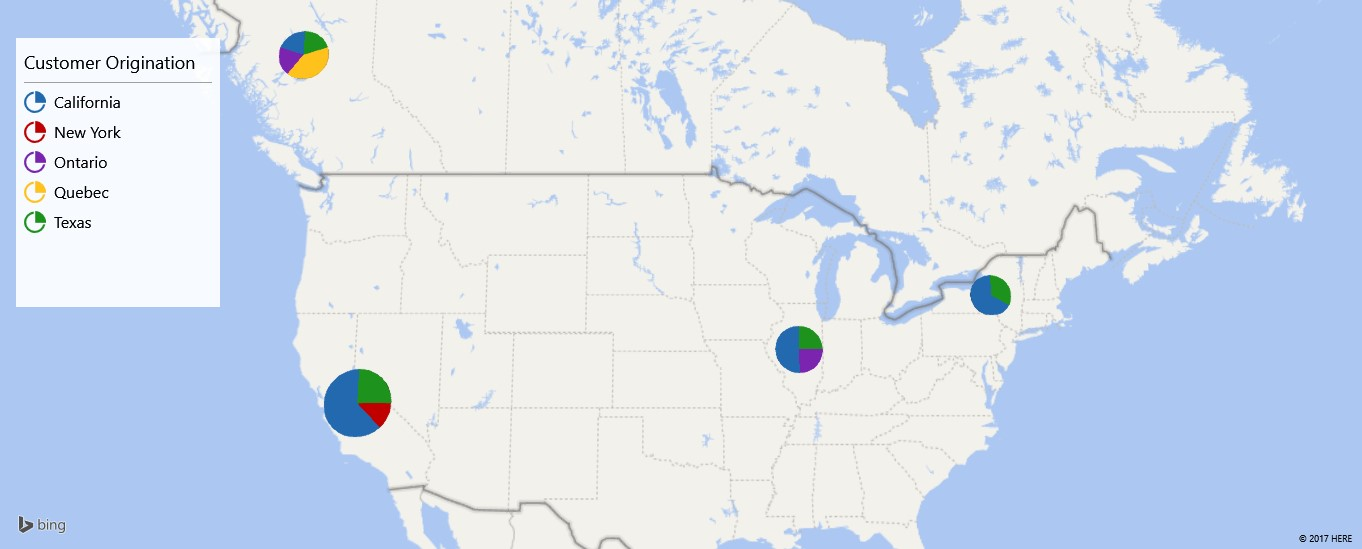
1. How are the various resorts performing financially?

This graph looks at each Resort and shows Booking Revenue on a Day of Week basis. From this visualization management can conclude that Resorts 1 and 2 are booked primarily at the beginning of the week, Resort 3 at the end of the week and Resorts 4 and 5 throughout the week.

**11) Create a visualization for your second management question. (Note: it must be different than the first and ideally use different fact or dimension tables).**

1. How are overnight guests utilizing the facilities?

This graphic, produced in Excel, shows where customers are originating from for the various Resorts. The States in which Resort are located are indicated by the locations of the pie charts, and the pie charts themselves show how many customers are originating from each state as described in the legend.



**12) Create a third visualization, it must be different than the first two and should use different fact or dimension tables.**

This simple graphic just shows the number of Event Bookings per Resort. The time period is not specified and assumed to be the total for the entire dataset.