**Computer Science 1600**

**Assignment 3 (Distance Section)**

**Spring 2019**

**DESIGN DOCUMENT**

**Part I - Query Design**

Design each of the following queries.

1. List all of the *Kimmy’s Cake* orders that were placed before 2019. Your list should include the order number, the cake size, the date to be ready by, and whether or not the order was completed. Your list should be sorted from the oldest to most recent by the date to be ready.

**Complete the Query Design Table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Field:** | COrderNum | Size ID | Date to be Ready By | Order Completed? | Date Ordered |  |  |  |  |
| **Table:** | Cake Orders | Cake Sizes | Cake Orders | Cake Orders | Cake Orders |  |  |  |  |
| **Total:** |  |  |  |  |  |  |  |  |  |
| **Sort:** |  |  | Ascending |  |  |  |  |  |  |
| **Show(Y/N):** | Y | Y | Y | Y | N |  |  |  |  |
| **Criteria:** |  |  |  |  | <#2019/1/1# |  |  |  |  |
| **Or:** |  |  |  |  |  |  |  |  |  |

**Complete the** **Relationship Design Table (Join Table):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From Table** | **From Field** |  | **To Table** | **To Field** |
| Cake Sizes | Size ID |  | Cake Orders | Cake Size |
|  |  |  |  |  |
|  |  |  |  |  |

1. List all of the orders for extra large cakes that require delivery. Your list should include the order number, client ID, special instructions for the cake, and the delivery directions.

**Complete the Query Design Table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Field:** | COrderNum | Special Instructions | Delivery Address/Directions | ClientID | Size ID |  |  |  |  |
| **Table:** | Cake Orders | Cake Orders | Cake Orders | Clients | Cake Sizes |  |  |  |  |
| **Total:** |  |  |  |  |  |  |  |  |  |
| **Sort:** |  |  |  |  |  |  |  |  |  |
| **Show(Y/N):** | Y | Y | Y | Y | N |  |  |  |  |
| **Criteria:** |  |  |  |  | "XL" |  |  |  |  |
| **Or:** |  |  |  |  |  |  |  |  |  |

**Complete the** **Relationship Design Table (Join Table):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From Table** | **From Field** |  | **To Table** | **To Field** |
| Cake Sizes | Size ID |  | Cake Orders | Cake Size |
| Clients | ClientID |  | Cake Orders | ClientID |
|  |  |  |  |  |

1. List all cake orders for cakes with vanilla or chocolate pudding as the filling. Your list should include the cake name, the cost to make per serving, the date to be ready by, the special instructions for the cake and the flavour of the filling. Your list should be sorted by the cake name and, within each cake name, by date to be ready by (both in ascending order).

**Complete the Query Design Table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Field:** | Cake Name | Cost to Make Per Serving | Date to be Ready By | Special Instructions | Filling Flavour |  |  |  |  |
| **Table:** | Cake Types | Cake Types | Cake Orders | Cake Orders | Cake Types |  |  |  |  |
| **Total:** |  |  |  |  |  |  |  |  |  |
| **Sort:** | Ascending |  | Ascending |  |  |  |  |  |  |
| **Show(Y/N):** | Y | Y | Y | Y | Y |  |  |  |  |
| **Criteria:** |  |  |  |  | "chocolate pudding" Or "vanilla pudding" |  |  |  |  |
| **Or:** |  |  |  |  |  |  |  |  |  |

**Complete the** **Relationship Design Table (Join Table):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From Table** | **From Field** |  | **To Table** | **To Field** |
| Cake Types | CTID |  | Cake Orders | CTID |
|  |  |  |  |  |
|  |  |  |  |  |

1. List the number of orders for each type of cake. Your list should include the cake type ID, the name of the cake, and the number of orders for each type of cake.

**Complete the Query Design Table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Field:** | CTID | Cake Name | CTID |  |  |  |  |  |  |
| **Table:** | Cake Types | Cake Types | Cake Types |  |  |  |  |  |  |
| **Total:** | Group By | Group By | Count |  |  |  |  |  |  |
| **Sort:** |  |  |  |  |  |  |  |  |  |
| **Show(Y/N):** | Y | Y | Y |  |  |  |  |  |  |
| **Criteria:** |  |  |  |  |  |  |  |  |  |
| **Or:** |  |  |  |  |  |  |  |  |  |

**Complete the** **Relationship Design Table (Join Table):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From Table** | **From Field** |  | **To Table** | **To Field** |
| Cake Types | CTID |  | Cake Orders | CTID |
|  |  |  |  |  |
|  |  |  |  |  |

1. A listing of all cake orders that do not need to be ready until after today. (**Hint:** Today’s date is returned by the **Date()** function.) Your list should include the name of the client who ordered the cake (their first name, followed by their last name), the date the cake was ordered, the date that the cake needs to be ready by, the name of the cake and the name of the size of the cake ordered. Your list should be sorted by the last name of the client (in ascending order) and then by the first name of the client (also in ascending order).

**Complete the Query Design Table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Field:** | FName | LName | Date to be Ready By | Cake Name | Size Name | Date Ordered | FName | LName |  |
| **Table:** | Clients | Clients | Cake Orders | Cake Types | Cake Sizes | Cake Orders | Clients | Clients |  |
| **Total:** |  |  |  |  |  |  |  |  |  |
| **Sort:** |  | Ascending |  |  |  |  | Ascending | Ascending |  |
| **Show(Y/N):** | Y | Y | Y | Y | Y | Y | N | N |  |
| **Criteria:** |  |  | >Date() |  |  |  |  |  |  |
| **Or:** |  |  |  |  |  |  |  |  |  |

**Complete the** **Relationship Design Table (Join Table):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From Table** | **From Field** |  | **To Table** | **To Field** |
| Cake Sizes | Size ID |  | Cake Orders | Cake Size |
| Cake Types | CTID |  | Cake Orders | CTID |
| Clients | ClientID |  | Cake Orders | ClientID |

1. List of the total number of servings ordered by each client over all cake orders. Your list should include the client ID and the total servings ordered by that client overall. The list should be sorted by the total servings ordered, from most to least.

**Complete the Query Design Table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Field:** | ClientID | Total Serving: Sum([Cake Sizes]![Number of Servings]) |  |  |  |  |  |  |  |
| **Table:** | Clients |  |  |  |  |  |  |  |  |
| **Total:** | Group By | Expression |  |  |  |  |  |  |  |
| **Sort:** |  | Descending |  |  |  |  |  |  |  |
| **Show(Y/N):** | Y | Y |  |  |  |  |  |  |  |
| **Criteria:** |  |  |  |  |  |  |  |  |  |
| **Or:** |  |  |  |  |  |  |  |  |  |

**Complete the** **Relationship Design Table (Join Table):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From Table** | **From Field** |  | **To Table** | **To Field** |
| Cake Sizes | Size ID |  | Cake Orders | Cake Size |
| Clients | ClientID |  | Cake Orders | ClientID |
|  |  |  |  |  |

1. List of the average number of servings ordered for a particular cake type. The cake type ID should be given as a parameter to your query. Your list should include the cake type ID and the average number servings ordered for that cake type.

**Complete the Query Design Table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Field:** | CTID | Number of Servings |  |  |  |  |  |  |  |
| **Table:** | Cake Types | Cake Sizes |  |  |  |  |  |  |  |
| **Total:** | Group By | Avg |  |  |  |  |  |  |  |
| **Sort:** |  |  |  |  |  |  |  |  |  |
| **Show(Y/N):** | Y | Y |  |  |  |  |  |  |  |
| **Criteria:** | [Enter the cake type ID] |  |  |  |  |  |  |  |  |
| **Or:** |  |  |  |  |  |  |  |  |  |

**Complete the** **Relationship Design Table (Join Table):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From Table** | **From Field** |  | **To Table** | **To Field** |
| Cake Sizes | Size ID |  | Cake Orders | Cake Size |
| Cake Types | CTID |  | Cake Orders | CTID |
|  |  |  |  |  |

1. List of all the orders placed in 2019. Include in your list, the order number, the name of the cake and the cake size (the two-digit code), as well as the price of the cake ordered and the number of days available in which to make the cake (i.e., the difference between dates for when the cake needs to be ready and when it was ordered). The price of a cake is calculated by multiplying the number of servings by the cost to make the cake (per serving), and then including a markup of 35% of the cost to make the cake.

**Complete the Query Design Table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Field:** | Cake Name | Size ID | Number of Days Available: [Cake Orders]![Date to be Ready By]-[Cake Orders]![Date Ordered] | Price: [Cake Sizes]![Number of Servings]\*[Cake Types]![Cost to Make Per Serving]\*1.35 | COrderNum | Date Ordered |  |  |  |
| **Table:** | Cake Types | Cake Sizes |  |  | Cake Orders | Cake Orders |  |  |  |
| **Total:** | Y | Y | Y | Y | Y | N |  |  |  |
| **Sort:** |  |  |  |  |  |  |  |  |  |
| **Show(Y/N):** |  |  |  |  |  |  |  |  |  |
| **Criteria:** |  |  |  |  |  | >=#2019/1/1# |  |  |  |
| **Or:** |  |  |  |  |  |  |  |  |  |

**Complete the** **Relationship Design Table (Join Table):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From Table** | **From Field** |  | **To Table** | **To Field** |
| Cake Sizes | Size ID |  | Cake Orders | Cake Size |
| Cake Types | CTID |  | Cake Orders | CTID |
|  |  |  |  |  |

1. Due to a rise in ingredient prices, *Kimmy’s Cakes* has noticed that the cost to make each cake has increased by at least 10%. Create an **update query** to make this change.

**Complete the Update Query Design Table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Field:** | Cost to Make Per Serving | Total profit |  |  |  |  |  |  |  |
| **Table:** | Cake Types | query9 |  |  |  |  |  |  |  |
| **Update To:** | [Cost to Make Per Serving]\*1.1 | [Total profit]\*1.1 |  |  |  |  |  |  |  |
| **Criteria:** |  |  |  |  |  |  |  |  |  |
| **Or:** |  |  |  |  |  |  |  |  |  |

1. List the total profit generated from all of the orders. Your list should result in a single number (the total profit) and assume the previously mentioned markup of 35% of the cost to make the cake. (**Hint:** The total profit from all orders should be $242.20.)

**Complete the Query Design Table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Field:** | Total profit: Sum([Cake Types]![Cost to Make Per Serving]\*[Cake Sizes]![Number of Servings]\*.35) |  |  |  |  |  |  |  |  |
| **Table:** |  |  |  |  |  |  |  |  |  |
| **Total:** | Expression |  |  |  |  |  |  |  |  |
| **Sort:** |  |  |  |  |  |  |  |  |  |
| **Show(Y/N):** | Y |  |  |  |  |  |  |  |  |
| **Criteria:** |  |  |  |  |  |  |  |  |  |
| **Or:** |  |  |  |  |  |  |  |  |  |

**Complete the** **Relationship Design Table (Join Table):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From Table** | **From Field** |  | **To Table** | **To Field** |
| Cake Types | CTID |  | Cake Orders | CTID |
| Cake Sizes | Size ID |  | Cake Orders | Cake Size |
|  |  |  |  |  |