\*\*\*JEREMY KING\*\*\*

Data Modeling Questions

* Design a database to model a cookbook with meal types, recipes, ingredients.
* You can use paper to document your data model.

SQL Questions

* Given the following SQL SELECT statement what are the highlighted text represent?

SELECT ***CUST***.CUSTOMER AS ***NAME***, ***CUST***.CUSTOMER\_ADDRESS

FROM CUSTOMER\_V ***CUST***

WHERE ***NAME*** = ‘Home Furnishings’;

-CUST is an Entity Name and NAME is an alias representing the new column Name 'Home Furnishings' for the CUST.CUSTOMER fields.

* Given the following Orders and Customers tables:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **OrderID** | | **CustomerID** | **OrderDate** | |
| 10308 | | 2 | 1996-09-18 | |
| 10309 | | 37 | 1996-09-19 | |
| 10310 | | 77 | 1996-09-20 | |
| **CustomerID** | **CustomerName** | | | **ContactName** | | **Country** |
| 1 | Alfreds Futterkiste | | | Maria Anders | | Germany |
| 2 | Ana Trujillo Emparedados y helados | | | Ana Trujillo | | Mexico |
| 3 | Antonio Moreno Taquería | | | Antonio Moreno | | Mexico |

What would the result set be given the following SQL SELECT statement?

SELECT Orders.OrderID, Customers.CustomerName, Orders.OrderDate  
FROM Orders  
INNER JOIN Customers  
ON Orders.CustomerID=Customers.CustomerID;

OrderID CustomerName OrderDate

1 10308 Ana Trujillo Emparedados y helados 1996-09-18

What would the result set be given the following SQL SELECT statement?

SELECT Orders.OrderID, Customers.CustomerName, Orders.OrderDate  
FROM Orders  
LEFT JOIN Customers  
ON Orders.CustomerID=Customers.CustomerID;

OrderID CustomerName OrderDate

1 10308 Ana Trujillo Emparedados y helados 1996-09-18

2 10309 null 1996-09-19

3 10310 null 1996-09-20

Entity Framework Questions

* What do the following Entity Framework Object Services provide for your application in regards to data from a database?
* Materialization

Creates instances of objects from database data.

* Change Tracking

Keeps track of changes made to the database stucture and data.

* Object identities

Knows identity relations between objects created from database entities

* Design a code first data model which has a Project class that can contain a bunch of tasks.

Object Orientation Questions

* What are the basic concepts of OOP?

OOP revolves around Classes that are constructs with fields that correspond to the classes data and methods that correspond to the behavior of the class.

* How do you program behavior into your C# class?

behavior is programed through methds

* Explain method overriding.

Some Methods that are in the base class can be overwritten in the child.

* What is Inheritance?

inheritance is taking attributes and methods of a base parent class, and then transferring them to the new child class. The new child class then contains the fields and methods from the parent along with it's own depending on the method and property accessors.

* What is abstract class?

A class that can only be used to inherit from. An abstract class cannot be instantiated.

Child classes of an abstract class can be instantiated.

MVC Questions

What is an example URL that would call the following controller method, assuming the default routes have been configured?

<http://.../Catalog/Specifications/id=1>

Part II: What HTTP Verb is used?

GET

public class CatalogController : Controller

 {

     public ActionResult Specifications(int id)

     {

         var model = new SpecModel(id);

         return View();

     }

}

Examine the following View for an MVC Application:

@model IEnumerable<MVCGuidedLab.Models.Color>

@{

    ViewBag.Title = "Index";

}

<h2>Index</h2>

<p>

    @Html.ActionLink("Create New", "Create")

</p>

<table class="table">

    <tr>

        <th>

            @Html.DisplayNameFor(model => model.Name)

        </th>

        <th>

            @Html.DisplayNameFor(model => model.Value)

        </th>

        <th></th>

    </tr>

@foreach (var item in Model) {Go

    <tr>

        <td>

            @Html.DisplayFor(modelItem => item.Name)

        </td>

        <td>

            @Html.DisplayFor(modelItem => item.Value)

        </td>

        <td>

            @Html.ActionLink("Edit", "Edit", new { id=item.Id }) |

            @Html.ActionLink("Details", "Details", new { id=item.Id }) |

            @Html.ActionLink("Delete", "Delete", new { id=item.Id })

        </td>

    </tr>

}

</table>

* What type is the Model?
* Is the model a single object, or a sequence?

sequence

* What properties are on the items in the model?

Id, Name, Value

Programming Exercises

To turn in this exam, you’ll create a fork of a repository, make modifications to the project in that repository, and submit a pull request with your changes.

We’ll walk you through the github workflow for those pieces. However, the code will be yours.

Go to Github.com and fork the repository <https://github.com/BillWagner/ExperienceITExam>

Then, clone your fork to your desktop. You’ll do that by clicking the “Clone in Desktop” button on the github page.

Now, you’re ready to do your work.

* Open the program.cs file in the Loops project. The Main method has comments that describe what you should do. Make your changes.
* Open the program.cs file in the Extension methods project. The Main method has comments that describe the code you should add. Make your changes.
* Open the program.cs file in the Lazy Evaluation project. The Main method has comments that describe the code you should add. Make those changes as well.
* Open the program.cs file in the Query Expresssions project. As before, the Main method has comments that describe the code you should or change.
* Make a new ASP.NET MVC project and add it to the solution. Add a controller called DiceRoll controller. Modify the index method and the index view to display all the combinations of results from rolling 2 six-sided dice. (For example, { 1, 1}, {1, 2} etc.

Commit your changes, and then push them to github.

Now, you’re ready to submit a pull request. Navigate to your fork of the repository in github.com in a browser. Below the Code tab on the right side, you’ll see a link that says “Pull Request”. Click that. Once you’re on the Pull Request page, submit a new pull request. Add your name, and any comments you would like on your pull request, and submit the request.

We can now look at your changes, and see how you did.