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Data Modeling Questions

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

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’; The bold letters represent the FIELDS of a table being used.

* 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;

This statement will return a list order IDs, The customers name, and the order dates middle.

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;

This statement will show the order IDs, Customers names, order date to the left side.

Entity Framework Questions

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

Initializes or replicates a database to use.

* Change Tracking

Allows for tracking of data change, specifically in long running transactions.

* Object identities

Identifies objects that have been previously used to prevent reduncancy.

* Design a code first data model which has a Project class that can contain a bunch of tasks. I'M GONNA HAVE TO COME BACK TO THIS ONE. I KNOW HOW TO DESIGN A CLASS, BUT I DON'T KNOW EXACTLY HOW TO EXPLAIN THIS ONE.

Object Orientation Questions

* What are the basic concepts of OOP?

OOP Is a set of programming languages together with a focus on .NET and C#. It allows for the reusability of objects to create other instances.

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

Behaviors can be added like triggers by exposing the command. Don't ask me how I know this, I just read it somewhere.

* Explain method overriding.

Method overrding allows you to use a function(s) that are inside of a different class.

* What is Inheritance?

Inheritance allow you to create a variation of an existing class and use it in a different

situation.

* What is abstract class?

They are not used all that frequently, but when they are they can be partially implemented but not instanted.

MVC Questions

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

I am do not know the anwer to this question at all.

Part II: What HTTP Verb is used?

FROM

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? Complex
* Is the model a single object, or a sequence? Single Object
* What properties are on the items in the model? Name and 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.