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Midterm Quiz

7/18/2013

# Data Modeling Questions

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

CookBook Model

Cookbook Entity

Cookbook primary key

Meals

Recipes

Ingredients

Meal Entity

Meal Primary key

Many recipes to many meals

One Recipe Many Ingredients

Ingredients

Ingredients

Many Ingredients to a meal

Many meals to ingredients

Many meals to ingredients

# 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’;

* Given the following Orders and Customers tables:

You are going to get customers names and addresses that are associated with and whose association is equivalent to Home furnishings.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **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;

You are going to return the results of the join customer’s tables whose order ids are the same.

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;

# Entity Framework Questions

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

It can create databases, and websites that perform actions for you.

* 1. Change Tracking

It has multiple logging services that can be programmed against

* 1. Object identities

It gives you the linq frame work that makes your relational tables ood.

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

Private Class Projects {

Materialization {get; set;}

Change\_Tracking {get;set;}

Object\_Identities{get;set}

}

# Object Orientation Questions

* What are the basic concepts of OOP?

Namespaces, Classes, Methods, Objects, Polymorphism, Inheritance

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

By Creating a method in a class

* Explain method overriding.

Method overriding allows you to extend or modify abstracts or virtual implementations of objects. It allows you to augment a method index event or property of a inherited class.

* What is Inheritance?

Inheritance is when an object is cast from another class and it gains features from the previous class.

* What is abstract class?

An abstract class is a partial or not implemented class that is invariant.

So that it can be brought into other interfaces etc and not be changed.

# MVC Questions

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

@Html.Action(“Your Actions”)

Such as

@Html.ActionLink(“Add New Student”, “Create”, “Read”,“Update”,”Delete”, new {@class =”btn btn-primary})

Part II: What HTTP Verb is used?

http verb put

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>

1. What type is the Model?

Spec

1. Is the model a single object, or a sequence?

Sequence

1. What properties are on the items in the model?

Create, Create New, Edit, Details, Delete

# 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.

1. Open the program.cs file in the Loops project. The Main method has comments that describe what you should do. Make your changes.
2. 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.
3. 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.
4. 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.
5. 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.