Quiz 3

Write your name on the exam. Write something for every question. Students who do not write something for everything lose out over students who write down wild guesses. You will get some points if you attempt a solution but nothing for a blank sheet of paper. Write something down, even wild guesses. Problems take long to read but can be answered concisely.

Question	Maximum	Score
1	10	
2	10	
Total	20	

Question 1 – HTTP and state

a) Explain briefly what the following sentence means: "HTTP is a stateless protocol."

Individual HTTP requests are handled independently from previous ones by the server. There is no information at the web server built based on previous HTTP requests ("server state") that would affect the outcome of a given request.

b) Give at least two reasons why a server using dynamic pages with server-side programs would want to keep state across HTTP requests.

1) To remember the identity of the user
2) To remember previous selections (e.g. shopping cart, user preferences)
3) To remember user preferences set in previous pages

c) Explain briefly how session state works in ASP.NET .

The server places a cookie on the client and stores the objects associated with the session in server memory. Each client has a different session. When the browser makes subsequent requests, it sends the cookie and the server uses it to identify the appropriate session data which becomes available when the new requests are processed. Session data can be read and updated. Session data can also be stored at a state server or database server. If the data of a given session is not accessed by any page for a certain time, it is discarded by the server.

Question 2 – C#

Write a short C# program that does the following:

Using Odbc commands and based upon the schema of the example database gone over in class, write a program that prints a class roster of names and email addresses for people who took CS 302 in Fall of 2005 (this will be a three way join). Error conditions are to be handled with exceptions. It is not necessary to get the schema exactly right (column and table names, for example – we're looking for concepts. You will be using: OdbcConnection, OdbcCommand, OdbcDataReader. Use parameterized queries for catalog number, term, and year.

```csharp
using System;
using System.Collections.Generic;
using System.Text;
using System.Data.Odbc;
using System.Data;

namespace Demo1{
  class Program{
    static string connectionString="don't care about it";

    static void Main(string[] args){
      OdbcCommand c = new OdbcCommand();
      c.Connection = new OdbcConnection(connectionString);

      c.CommandText = "select people.firstname, people.lastname, people.email"+
        "from people,grades,courses "+
        "where people.id=grades.studentid and grades.courseid=courses.id and"+
        " courses.catalognumber=? and grades.semester=? and grades.year=?";
      c.Parameters.AddWithValue("@catalognumber", "302");
      c.Parameters.AddWithValue("@semester", "Fall");
      c.Parameters.AddWithValue("@year", "2005");

      OdbcDataReader reader = null;

      try{
        c.Connection.Open();
        reader = c.ExecuteReader();
        while (reader.Read()){
          Console.WriteLine(string.Format("{0} {1} {2}",reader[0].ToString(),
            reader[1].ToString(), reader[2].ToString()));}
      }catch (Exception e){
        Console.Error.WriteLine(e.Message);
      }finally{
        if (c.Connection.State == ConnectionState.Open)
          c.Connection.Close();
        if (reader != null && !reader.IsClosed)
          reader.Close();
      }

      Console.WriteLine("Hit return to exit.");
      Console.Read();
    }
  }
}
```