

EE4216 Test 2 Q1 Ans

Q1.java

```
@WebServlet (name = "Q1Servlet", urlPatterns = {"/q1"})
public class Q1 extends HttpServlet {

    public static Random randomer = new Random();

    @Override
    public void doGet (HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {

        HttpSession session = request.getSession(true);
        // initiate the game
        if (session.getAttribute("secret") == null) {
            // generate a secret number between 1 to 10
            int secret = randomer.nextInt(10) + 1;
            session.setAttribute("secret", secret);
            session.setAttribute("chance", 4);
        }

        int chance = (Integer) session.getAttribute("chance");
        int secret = (Integer) session.getAttribute("secret");
        int guess = -1;
        if (chance > 0 && request.getParameter("guess") != null) {
            try {
                guess = Integer.parseInt(request.getParameter("guess"));
                session.setAttribute("chance", --chance);
            } catch (NumberFormatException e) {
                guess = -2;
            }
        }

        // output HTML
        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter();

        out.write("<!DOCTYPE html>\n");
        out.write("<html>\n");
        out.write("    <head>\n");
        out.write("        <meta charset=UTF-8>\n");
        out.write("        <title>Servlet - Number Guessing Game</title>\n");
        out.write("    </head>\n");
        out.write("    <body>\n");
        out.write("        <p>\n");
        out.write("            Pick a number between 1 to 10.<br>\n");
        out.write("            You have " + chance + " chance(s) left.\n");
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out.write("                </p>\n");
out.write("                <form action=\"q1\" method=\"GET\">\n");
out.write("                    <input type=\"text\" name=\"guess\" />\n");
out.write("                    <input type=\"submit\" value=\"submit\" />\n");
out.write("                </form>\n");

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if (guess == -1) {
    out.println("<h2>No guess is made.</h2>");
} else if (guess == -2) {
    out.println("<h2>Invalid input.</h2>");
} else if (guess == secret) {
    out.println("<h2>Bingo! My secret number is " + secret + ".</h2>");
    out.println("<a href =\"q1\">Play Again</a>");
    session.invalidate();
} else if (chance <= 0) {
    out.println("<h2>You lose. My secret number is " + secret + ".</h2>");
    out.println("<a href =\"q1\">Play Again</a>");
    session.invalidate();
}

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} else if (guess > secret) {
    out.println("<h2>Your guess, " + guess + ", is too big.</h2>");
} else {
    out.println("<h2>Your guess, " + guess + ", is too small.</h2>");
}

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out.write("\n");
out.write("    </body>\n");
out.write("</html>\n");
out.close();    // close stream

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}

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}

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// Please be aware of "/"