

Question 1: Servlets Form Handling :

StudentForm.html:

```
<!DOCTYPE html>

<html>

<head><title>Student Registration</title></head>

<body>

    <form action="register" method="post">

        Name: <input type="text" name="name"><br>

        Age: <input type="text" name="age"><br>

        Email: <input type="text" name="email"><br>

        <input type="submit" value="Register">

    </form>

</body>

</html>
```

RegisterServlet.java :

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class RegisterServlet extends HttpServlet {

    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
    ServletException, IOException {

        response.setContentType("text/html");

        PrintWriter out = response.getWriter();

        String name = request.getParameter("name");

        String age = request.getParameter("age");

        String email = request.getParameter("email");

        out.println("<html><body>");

        out.println("<h2>Registration Details</h2>");

        out.println("Name: " + name + "<br>");

        out.println("Age: " + age + "<br>");

        out.println("Email: " + email + "<br>");

        out.println("</body></html>");

    }

}
```

}

}

Question 2: Servlet Request Dispatcher Use Case :

marksForm.html:

```
<!DOCTYPE html>
<html>
<head><title>Student Marks</title></head>
<body>
  <form action="input" method="post">
    Name: <input type="text" name="name"><br>
    Marks: <input type="text" name="marks"><br>
    <input type="submit" value="Submit">
  </form>
</body>
</html>
```

InputServlet.java :

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class InputServlet extends HttpServlet {
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {

        String name = request.getParameter("name");
        String marks = request.getParameter("marks");

        request.setAttribute("name", name);
        request.setAttribute("marks", Integer.parseInt(marks));

        RequestDispatcher rd = request.getRequestDispatcher("grade");
```

```
        rd.forward(request, response);
    }
}
```

GradeServlet.java :

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class GradeServlet extends HttpServlet {
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        String name = (String) request.getAttribute("name");
        int marks = (Integer) request.getAttribute("marks");
        String grade;

        if (marks >= 90) {
            grade = "A";
        } else if (marks >= 75) {
            grade = "B";
        } else if (marks >= 60) {
            grade = "C";
        } else if (marks >= 40) {
            grade = "D";
        } else {
            grade = "F";
        }

        out.println("<html><body>");
```

```
        out.println("<h2>Student Grade</h2>");
        out.println("Name: " + name + "<br>");
        out.println("Marks: " + marks + "<br>");
        out.println("Grade: " + grade + "<br>");
        out.println("</body></html>");
    }
}
```

Question 3: Servlet Hidden Form Fields Use Case:

selectProduct.html

```
<!DOCTYPE html>

<html>

<head><title>Select Product</title></head>

<body>

    <form action="enterQuantity" method="post">
        <label>Select a product:</label><br>
        <select name="product">
            <option value="Pen-10">Pen - $10</option>
            <option value="Notebook-50">Notebook - $50</option>
            <option value="Pencil-5">Pencil - $5</option>
        </select>
        <br><br>
        <input type="submit" value="Next">
    </form>

</body>

</html>
```

EnterQuantityServlet.java:

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class EnterQuantityServlet extends HttpServlet {
```

```

protected void doPost(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {

    String selected = request.getParameter("product");
    String[] parts = selected.split("-");
    String name = parts[0];
    String price = parts[1];

    response.setContentType("text/html");
    PrintWriter out = response.getWriter();

    out.println("<html><body>");
    out.println("<form action='receipt' method='post'>");
    out.println("Product: " + name + "<br>");
    out.println("Price: $" + price + "<br>");
    out.println("Quantity: <input type='text' name='quantity'><br>");
    out.println("<input type='hidden' name='name' value='" + name + "'>");
    out.println("<input type='hidden' name='price' value='" + price + "'>");
    out.println("<input type='submit' value='Calculate Total'>");
    out.println("</form></body></html>");
}
}

```

ReceiptServlet.java:

```

import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class ReceiptServlet extends HttpServlet {
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {

        String name = request.getParameter("name");

```

```
double price = Double.parseDouble(request.getParameter("price"));
int quantity = Integer.parseInt(request.getParameter("quantity"));
double total = price * quantity;

response.setContentType("text/html");
PrintWriter out = response.getWriter();

out.println("<html><body>");
out.println("<h2>Receipt</h2>");
out.println("Product: " + name + "<br>");
out.println("Price: $" + price + "<br>");
out.println("Quantity: " + quantity + "<br>");
out.println("<strong>Total: $" + total + "</strong>");
out.println("</body></html>");
}
}
```

Question 4: Servlet Session Management

File 1: login.html

```
<!DOCTYPE html>
<html>
<head><title>Login</title></head>
<body>
  <form action="loginServlet" method="post">
    Username: <input type="text" name="username"><br>
    <input type="submit" value="Login">
  </form>
</body>
</html>
```

Question 5: Servlet Cookies (Shopping Cart) :

shop.html :

```

<!DOCTYPE html>
<html>
<head><title>Shop</title></head>
<body>
  <h2>Select Items to Add to Cart</h2>
  <form action="addToCart" method="post">
    <input type="checkbox" name="item" value="Pen"> Pen<br>
    <input type="checkbox" name="item" value="Notebook"> Notebook<br>
    <input type="checkbox" name="item" value="Pencil"> Pencil<br>
    <input type="submit" value="Add to Cart">
  </form>
  <br>
  <a href="viewCart">View Cart</a>
</body>
</html>

```

Add To Cart Servlet.java :

```

import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class AddToCartServlet extends HttpServlet {

    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {

        String[] items = request.getParameterValues("item");
        if (items != null) {
            for (String item : items) {
                Cookie cookie = new Cookie(item, item);
                response.addCookie(cookie);
            }
        }

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
    }
}

```

```

        out.println("<html><body>");
        out.println("<h2>Items added to cart!</h2>");
        out.println("<a href='shop.html'>Go Back</a><br>");
        out.println("<a href='viewCart'>View Cart</a>");
        out.println("</body></html>");
    }
}

```

ViewCartServlet.java:

```

import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class ViewCartServlet extends HttpServlet {
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html><body>");
        out.println("<h2>Your Cart</h2>");
        Cookie[] cookies = request.getCookies();
        boolean found = false;
        if (cookies != null) {
            for (Cookie c : cookies) {
                String name = c.getName();
                String value = c.getValue();
                out.println(name + "<br>");
                found = true;
            }
        }
        if (!found) {
            out.println("Cart is empty.<br>");
        }
    }
}

```



```
        out.println("<br><a href='shop.html'>Back to Shop</a>");
        out.println("</body></html>");
    }
}
```

Question 6: Servlet + JDBC (MySQL) + HTML: Display Vendor Records:

MySQL Table Creation (run in MySQL) :

```
CREATE DATABASE vendorDB;
```

```
USE vendorDB;
```

```
CREATE TABLE vendors (
    id INT PRIMARY KEY,
    name VARCHAR(50),
    email VARCHAR(50),
    contact VARCHAR(15)
);
```

```
INSERT INTO vendors VALUES (1, 'ABC Supplies', 'abc@example.com', '9876543210');
```

```
INSERT INTO vendors VALUES (2, 'XYZ Traders', 'xyz@example.com', '123456789');
```

VendorServlet.java:

```
import java.io.*;
import java.sql.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class VendorServlet extends HttpServlet {

    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html><body>");
```

```

out.println("<h2>Vendor List</h2>");
out.println("<table border='1'>");
out.println("<tr><th>ID</th><th>Name</th><th>Email</th><th>Contact</th></tr>");
try {
    Class.forName("com.mysql.cj.jdbc.Driver");
    Connection conn = DriverManager.getConnection(
        "jdbc:mysql://localhost:3306/vendorDB", "root", "your_password");
    Statement stmt = conn.createStatement();
    ResultSet rs = stmt.executeQuery("SELECT * FROM vendors");
    while (rs.next()) {
        out.println("<tr>");
        out.println("<td>" + rs.getInt("id") + "</td>");
        out.println("<td>" + rs.getString("name") + "</td>");
        out.println("<td>" + rs.getString("email") + "</td>");
        out.println("<td>" + rs.getString("contact") + "</td>");
        out.println("</tr>");
    }
    conn.close();
} catch (Exception e) {
    out.println("<tr><td colspan='4'>Error: " + e.getMessage() + "</td></tr>");
}
out.println("</table>");
out.println("</body></html>");
}
}

```

