**Day 4 Home work:**

Unique Id : E0119023

**Program :**

**//Note : Each of the class file is named as code then code 1 then code2 and so on..**

// The following programs should be done using Servlets

// 1. Write a program to solve quadratic equation

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.sql.\*;

public class code extends HttpServlet {

       public void init() throws ServletException {

       }

       public void doPost(HttpServletRequest request, HttpServletResponse response)

          throws ServletException, IOException {

                response.setContentType("text/html");

                PrintWriter out = response.getWriter();

                double a=0,b=0,c=0;

                out.println("<html><body><h2>");

                try {

                    a=Double.parseDouble(request.getParameter("a") );

                    b=Double.parseDouble(request.getParameter("b") );

                    c=Double.parseDouble(request.getParameter("c") );

                    double result = b \* b - 4.0 \* a \* c;

                    if (result > 0.0) {

                        double r1 = (-b + Math.pow(result, 0.5)) / (2.0 \* a);

                        double r2 = (-b - Math.pow(result, 0.5)) / (2.0 \* a);

                        out.println("The roots are " + r1 + " and " + r2);

                    } else if (result == 0.0) {

                        double r1 = -b / (2.0 \* a);

                        out.println("The root is " + r1);

                    } else {

                        out.println("The equation has no real roots.");

                    }

                  }

                catch (Exception e) {

                  out.println("enter in all the values with integers (i.e  2,-3,2.34,-55.32) <br>" + e );

                //   out.println("hello"+ e );

              }

                out.println("</h2></body></html>");

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

       }

       public void destroy() {

       }

    }

// 2.Find the LCM of two numbers

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.sql.\*;

public class code1 extends HttpServlet {

       public void init() throws ServletException {

       }

       public void doPost(HttpServletRequest request, HttpServletResponse response)

          throws ServletException, IOException {

                response.setContentType("text/html");

                PrintWriter out = response.getWriter();

                double n1=0,n2=0,lcm=0;

                out.println("<html><body><h2>");

                try {

                    n1  =Double.parseDouble(request.getParameter("a") );

                    n2  =Double.parseDouble(request.getParameter("b") );

                    // maximum number between n1 and n2 is stored in lcm

                    lcm = (n1 > n2) ? n1 : n2;

                    while(true) {

                    if( lcm % n1 == 0 && lcm % n2 == 0 )

                    {

                        out.println("The LCM of " + n1 +"and " + n2 + "is"+ lcm );

                        break;

                    }

                    ++lcm;

                    }

                  }

                catch (Exception e) {

                  out.println("" + e );

                //   out.println("hello"+ e );

              }

                out.println("</h2></body></html>");

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

       }

       public void destroy() {

       }

    }

// 3. Find the HCF of two numbers

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.sql.\*;

public class code2 extends HttpServlet {

       public void init() throws ServletException {

       }

       public void doPost(HttpServletRequest request, HttpServletResponse response)

          throws ServletException, IOException {

                response.setContentType("text/html");

                PrintWriter out = response.getWriter();

                double a=0,b=0,hcf=0;

                out.println("<html><body><h2>");

                try {

                    a = Double.parseDouble(request.getParameter("a") );

                    b = Double.parseDouble(request.getParameter("b") );

                    for(double i = 1; i <= a || i <= b; i++) {

                       if( a%i == 0 && b%i == 0 )

                       hcf = i;

                    }

                    out.println("HCF of given two numbers is : "+hcf);

                }

                catch (Exception e) {

                    out.println(" Error: <br>" + e );

                //   out.println("hello"+ e );

              }

                out.println("</h2></body></html>");

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

       }

       public void destroy() {

       }

    }

// 4.Find the sum of natural numbers in a given interval

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.sql.\*;

public class code3 extends HttpServlet {

       public void init() throws ServletException {

       }

       public void doPost(HttpServletRequest request, HttpServletResponse response)

          throws ServletException, IOException {

                response.setContentType("text/html");

                PrintWriter out = response.getWriter();

                int a=0,b=0,c=0,d=0;

                out.println("<html><body><h2>");

                try {

                    a=Integer.parseInt(request.getParameter("a") );

                    b=Integer.parseInt(request.getParameter("b") );

                    c=a<b?a:b;

                    d=a>b?a:b;

                    a=0;

                    for (int i = c;i<d;i++){

                        a=a+i;

                    }

                    out.println("the sum of the interval from "+ c +" to "+ d +" is: "+ a );

                  }

                catch (Exception e) {

                  out.println("enter in all the values with integers (i.e  2,-3,2.34,-55.32) <br>" + e );

                //   out.println("hello"+ e );

              }

                out.println("</h2></body></html>");

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

       }

       public void destroy() {

       }

    }

// 5. Display the power series of a given number, eg: 2^0, 2^1, 2^2, 2^3, .... 2^n

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.sql.\*;

public class code4 extends HttpServlet {

       public void init() throws ServletException {

       }

       public void doPost(HttpServletRequest request, HttpServletResponse response)

          throws ServletException, IOException {

                response.setContentType("text/html");

                PrintWriter out = response.getWriter();

                int a=0,b=0,c=0,d=0;

                out.println("<html><body><h1> Power Seris </h1><br><h2>");

                try {

                    a=Integer.parseInt(request.getParameter("a") );

                    b=Integer.parseInt(request.getParameter("b") );

                    for (int i=0; i<b;i++){

                        out.println( Math.pow(a,i)+",");

                    }

                }

                catch (Exception e) {

                  out.println("enter in all the values with integers (i.e  2,-3,2.34,-55.32) <br>" + e );

                //   out.println("hello"+ e );

              }

                out.println("</h2></body></html>");

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

       }

       public void destroy() {

       }

    }

**Outputs:**

Output problem 1:

****

****

Output problem 2:





Output problem 3:





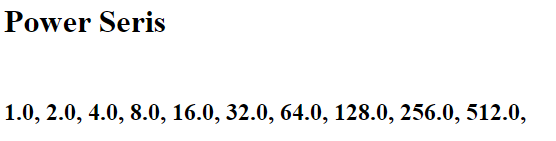
Output problem 4:





Output problem 5:

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