# Day 4 Home work:

## 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 resp
onse)
	   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 resp
onse)
          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"+ lc
m );
                        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 resp
onse)
          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 resp
onse)
         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() {
        }
    }
```

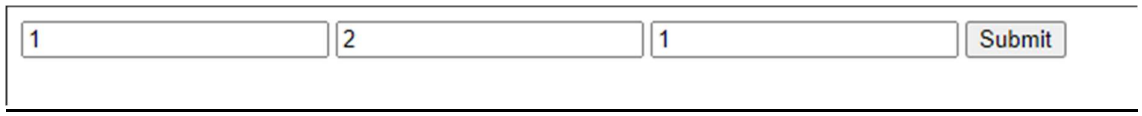
// 5. Display the power series of a given number, eg: 2^0, 2^1, 2^2, 2^3, .... 2^n

```
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 resp
onse)
           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:

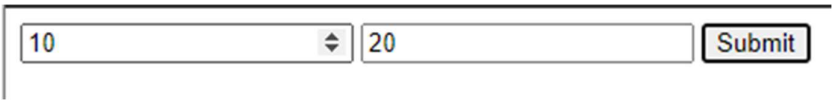



**The root is -1.0**

Output problem 2:

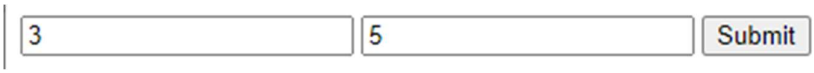

**The LCM of 6.0and 8.0is24.0**

Output problem 3:



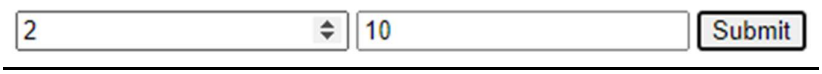

**HCF of given two numbers is : 10.0**

Output problem 4:




**the sum of the interval from 3 to 5 is: 7**

Output problem 5:



# Power Seris

## 1.0, 2.0, 4.0, 8.0, 16.0, 32.0, 64.0, 128.0, 256.0, 512.0,