Day 3 Home work:

Program :

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

//Students should upload a single PDF file

//The following programs should be done by using servlets

//1. Write a program to calculate simple interest and compound interest

```
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 i=0,p=0,r=0,t=0,n=0;
              String a="";
              try {
                  p=Double.parseDouble(request.getParameter("p") );
                  r=Double.parseDouble(request.getParameter("r") );
                  t=Double.parseDouble(request.getParameter("t") );
                  a=request.getParameter("a");
                  if (a.equals("s")){
                    a="Simple Intrest : ";
                    i=(p*t*r)/100;
                  }
                  if (a.equals("c")){
                      a="Compound Intrest : ";
                      n=Double.parseDouble(request.getParameter("n"));
                      i=(p * Math.pow(1 + (r / n), (n * t))) - p ;
                  }
                }catch (Exception e) {
                  out.println("enter in all the values ");
              }
              out.println("<html><body>"+ a + i +"</body></html>");
       }
```

```
        public void destroy() {
        }
    }
```

//2. Write a program to convert kilometers into centimeters and vice versa

```
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 k=0,c=0;
               String a=" ";
               try {
                   a=request.getParameter("a");
                   c=Double.parseDouble(request.getParameter("c") );
                   if (a.equals("c")){
                     a="In Kilometers :";
                     c=c/100000;
                   }
                   if (a.equals("k")){
                     a="In Centimeters :";
                     c=c*100000;
                   }
                 }catch (Exception e) {
                   out.println("enter in all the values ");
               }
               out.println("<html><body>"+ a + c +"</body></html>");
        }

        public void destroy() {
        }
    }
```

//3. Write a program to find a number is prime or not

```
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();

              int i,m=0,flag=0;
              int n=3;
              try {
                  n=Integer.parseInt(request.getParameter("a"));
              } catch (Exception e) {
                  out.println("Technical Error occored");
              }
              m=n/2;
              if(n==0||n==1){
               out.println(n+" is not prime number");
              }else{
               for(i=2;i<=m;i++){
                if(n%i==0){
                 out.println(n+" is not prime number");
                 flag=1;
                 break;
                }
               }
               if(flag==0)  { out.println(n+" is prime number"); }
              }
            }

       public void destroy() {
       }
    }
```

//4. Write a program to check if a number is armstrong number.

```
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 number = 0, originalNumber, remainder, result = 0;
                try {
                    number = Integer.parseInt(request.getParameter("a"));
                } catch (Exception e) {
                    out.println("Techinal Error");
                }
                originalNumber = number;
                while (originalNumber != 0)
                {
                remainder = originalNumber % 10;
                result += Math.pow(remainder, 3);
                originalNumber /= 10;
                }
                if(result == number)
                    out.println(number + " is an Armstrong number.");
                else
                    out.println(number + " is not an Armstrong number.");



            }

       public void destroy() {
       }
    }
```

//5. Write a program to convert celcius to farenheit.

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

public class code4 extends HttpServlet {

       public void init() throws ServletException {
       }
```

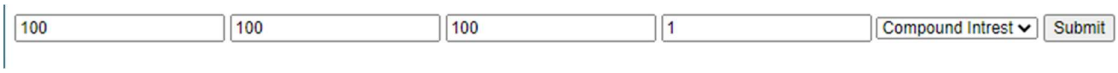
```
      public void doPost(HttpServletRequest request, HttpServletResponse resp
onse)
          throws ServletException, IOException {
              response.setContentType("text/html");
              PrintWriter out = response.getWriter();
              double Fahrenheit=0, Celsius=0;
              String a =" ";
              try {
                a=request.getParameter("a");
                if (a.equals("c")){
                Celsius=Double.parseDouble( request.getParameter("c") );
                Fahrenheit =((Celsius*9)/5)+32;
                out.println("Temperature in Fahrenheit is: "+Fahrenheit);
                }
                if (a.equals("k")){
                Fahrenheit=Double.parseDouble( request.getParameter("c") );
                Celsius  = ((Fahrenheit-32)*5)/9;
                out.println("Temperature in celsius is: "+Celsius);
                }
              }catch (Exception e) {
                out.println("enter in all the values ");
            }
            }

      public void destroy() {
      }
    }
```

Outputs:

Output problem 1:

Simple Intrest : 10000.0



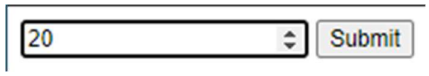
Compound Intrest : 2.7048138294215263E202

Output problem 2:

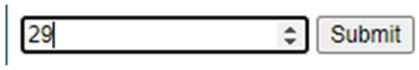
In Centimeters :1.0E7

In Kilometers :0.001

Output problem 3:

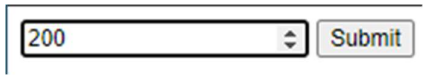


20 is not prime number



29 is prime number

Output problem 4:



200 is not an Armstrong number.

153 is an Armstrong number.

Output problem 5:

Temperature in celsius is: 37.77777777777778

Temperature in Fahrenheit is: 212.0