SRI RAMACHANDRA
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Category - I Deemed to be University) Porur, Chennai
SRI RAMACHANDRA ENGINEERING AND TECHNOLOGY

CSE 280 ADVANCE JAVA

STUDENT WORK BOOK

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Academic Year	**:**	2020-2021

Date: 18-11-2020

Questions:

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

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

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

4. Write a program to check if a number is Armstrong number.

5. Write a program to convert Celsius to Fahrenheit.

Program:

HTML:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <form action="q1" method="get">
        <input type="text" placeholder="Principal" name = "p" /><br>
        <input type="text" placeholder="Rate" name = "r" /><br>
        <input type="text" placeholder ="Time" name = "t" /><br>
        <button type="submit">Calculate</button>
    </form>
<br>
    <form action="q2" method="get">
        <input type="text" placeholder="km" name = "km" /><br>
        <input type="text" placeholder="cm" name = "cm" /><br>
        <button type="submit">Convert</button>
    </form>
<br>
    <form action="q3" method="get">
```

```
        <input type="text" name = "num" placeholder="Enter number"/><br>
        <button type="submit">Check</button>
    </form>
<br>
    <form action="q4" method="get">
        <input type="text" name = "no" placeholder="Enter number"/><br>
        <button type="submit">Check</button>
    </form>
<br>
    <form action="q5" method="get">
        <input type="text" name = "cel" placeholder="Enter celcius"/><br>
        <button type="submit">Convert</button>
    </form>
</body>
</html>
```

XML:

```
?xml version="1.0" encoding="UTF-8"?>

<web-app>

<servlet>
<servlet-name>q1</servlet-name>
<servlet-class>q1</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>q1</servlet-name>
<url-pattern>/q1</url-pattern>
</servlet-mapping>

<servlet>
<servlet-name>q2</servlet-name>
<servlet-class>q2</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>q2</servlet-name>
<url-pattern>/q2</url-pattern>
</servlet-mapping>

<servlet>
<servlet-name>q3</servlet-name>
```

```
<servlet-class>q3</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>q3</servlet-name>
<url-pattern>/q3</url-pattern>
</servlet-mapping>

<servlet>
<servlet-name>q4</servlet-name>
<servlet-class>q4</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>q4</servlet-name>
<url-pattern>/q4</url-pattern>
</servlet-mapping>

<servlet>
<servlet-name>q5</servlet-name>
<servlet-class>q5</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>q5</servlet-name>
<url-pattern>/q5</url-pattern>
</servlet-mapping>

</web-app>
```

JAVA SERVLETS:

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

public class q1 extends HttpServlet {

    public void init() throws ServletException {
    }

    public void doGet(HttpServletRequest request, HttpServletResponse response) t
hrows ServletException, IOException {
```

```
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        double p = Double.parseDouble(request.getParameter("p"));
        double r = Double.parseDouble(request.getParameter("r"));
        double t = Double.parseDouble(request.getParameter("t"));
        double si = p*r*t/100;
        double ci = (p*Math.pow((1+0.01*r),t))-p;
        out.println("<html><body>");
        out.println("<p>The simple interest is: Rs."+si+"</p>");
        out.println("<p>The compound interest is: Rs."+ci+"</p>");
        out.println("</body></html>");
    }

    public void destroy() {

    }
}
```

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

public class q2 extends HttpServlet {

    public void init() throws ServletException {
    }

    public void doGet(HttpServletRequest request, HttpServletResponse response) t
hrows ServletException, IOException {

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        double km = Double.parseDouble(request.getParameter("km"));
        double cm = Double.parseDouble(request.getParameter("cm"));
        double c1 = km * 100000;
        double c2 = cm / 100000;
        out.println("<html><body>");
        out.println("<p>The km is converted to:"+c1+" cm</p>");
        out.println("<p>The cm is: Rs."+c2+" km</p>");
        out.println("</body></html>");

    }
```

```
    public void destroy() {

    }
}
```

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

public class q3 extends HttpServlet {

    public void init() throws ServletException {
    }

    public void doGet(HttpServletRequest request, HttpServletResponse response) t
hrows ServletException, IOException {

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        int num = Integer.parseInt(request.getParameter("num"));
        int count = 0;
        for(int i=1; i<=num/2; i++){
            if(num%i == 0){
                count ++ ;
            }
        }
        out.println("<html><body>");
        if(count == 1){
            out.println("<p>The number is prime number</p>");
        }
        else{
            out.println("<p>The number is not prime number</p>");
        }
        out.println("</body></html>");
    }

    public void destroy() {

    }
}
```

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

public class q4 extends HttpServlet {

    public void init() throws ServletException {
    }

    public void doGet(HttpServletRequest request, HttpServletResponse response) t
hrows ServletException, IOException {

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        int no = Integer.parseInt(request.getParameter("no"));
        out.println("<html><body>");
        int r, sum = 0, temp = no;
        while (no > 0) {
            r = no % 10;
            no /= 10;
            sum += r * r * r;
        }
        if (temp == sum) {
            out.println("<p>" + temp + " is an armstrong</p>");
        } else {
            out.println("<p>" + temp + " is not an armstrong</p>");
        }
        out.println("</body></html>");
    }

    public void destroy() {

    }
}
```

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

public class q5 extends HttpServlet {

    public void init() throws ServletException {
```

```
    }

    public void doGet(HttpServletRequest request, HttpServletResponse response) t
hrows ServletException, IOException {

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html><body");
        float cel = Float.parseFloat(request.getParameter("cel"));
        float fahr = (cel * 9/5) + 32 ;
        out.println("<p>The fahrenheit equivalent is: "+fahr+"</p>");
        out.println("</body></html>");

    }

    public void destroy() {

    }
}
```

Output:

100
4
2
Calculate

10
1000
Convert

2
Check

1534
Check

-40
Convert

The simple interest is: Rs.8.0

The compound interest is: Rs.8.16000000000001

The km is converted to:1000000.0 cm

The cm is: Rs.0.01 km

The number is prime number

1534 is not an armstrong

The fahrenheit equivalent is: -40.0