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Aim:

Write a Servlet program to calculate Simple interest of an amount.

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21-02-2021

Practical - 04

Aim: Write a Servlet program to calculate simple interest of an amount

Write ups :-

* About servlet packages :- The javax servlet package contains a number of class and interface that describes and define the contracts between servlet class and the runtime environment provided for an instance of such a class by containing servlet container.

* Servlet lifecycle -

1) Servlet class is loaded -
The class loader is responsible to load the servlet class. The servlet class is loaded when the first s request for the servlet is received by the web container.

2) Servlet instance is created -
The web container creates the instance of a servlet after loading a servlet class. The sert servlet instance is created only once in the servlet life cycle.

3) Init method is invoked -
The web container calls the init method on once after creating the servlet instance. The init method is used to initialize the servlet. It is the lifecycle method of javax-servlet servlet lifecycle

4) Service method is invoked.

The web container calls the service method each when servlet request for the servlet is received. If servlet is not intialized, it follows the first three steps above then calls the service method. If Servlet is initialized, it calls service method, that servlet is initialized only once

5) destroy method is invoked.

The web container calls the destroy method before removing the servlet instance from the service. If gives the servlet an opputunity to clean up any resource for example memory, thread et.

Xml

```html
<!DOCTYPE html>
<!--
To change this license header, choose License Headers in Project Properties.
To change this template file, choose Tools | Templates and open the template in the editor.
-->
<html>
    <head>
        <title>TODO supply a title</title>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
    </head>
    <body>
        <div>Simple Interest</div>
        <form action ="sijava">
            Principal_amount <input type="text" name="pa" value="" /></br>
            no_of_months: <input type="text" name="nof" value="" /></br>
            rate_of_Interest: <input type="text" name="roi" value="" /></br>
```

```
        <input type="submit">


    </form>
  </body>
</html>
```
Java
```
import java.io.IOException;
import java.io.PrintWriter; import
javax.servlet.ServletException; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest; import
javax.servlet.http.HttpServletResponse;


/**
 *
 * @author LAXMINARAYANRO
 */
public class sijava extends HttpServlet {


    /**
 * Processes requests for both HTTP <code>GET</code> and
    <code>POST</code>
 * methods.
```

```
    *
* @param request servlet request
* @param response servlet response
* @throws ServletException if a servlet-specific error occurs
* @throws IOException if an I/O error occurs
 */
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)          throws ServletException, IOException {
response.setContentType("text/html;charset=UTF-8");
try (PrintWriter out = response.getWriter()) {           int p,n,r,si,pi;
        p = Integer.parseInt(request.getParameter("pa"));
        n = Integer.parseInt(request.getParameter("nof"));
r=  Integer.parseInt(request.getParameter("roi"));


        si= (p + n + r) / 100;
        out.println("Neeraj Appari S073 \n ");
out.println("</br>");
        String str = "Simple Interest = ("+si+") \n";
out.println(str);           pi= (si + p);
```

```java
        String str1 = "Total Amount With Interest = ("+pi+")";
out.println(str1);

    }

  }


  // <editor-fold defaultstate="collapsed" desc="HttpServlet
methods. Click on the + sign on the left to edit the code.">
  /**
* Handles the HTTP <code>GET</code> method.
   *
* @param request servlet request
* @param response servlet response
* @throws ServletException if a servlet-specific error occurs
* @throws IOException if an I/O error occurs
   */
  @Override
  protected void doGet(HttpServletRequest request,
HttpServletResponse response)
        throws ServletException, IOException {
processRequest(request, response);
    }
```

```java
    /**
     * Handles the HTTP <code>POST</code> method.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }


    /**
     * Returns a short description of the servlet.
     *
     * @return a String containing servlet description
     */
    @Override
```

```java
    public String getServletInfo() {
return "Short description";
    }// </editor-fold>



}
```


Simple Interest
Principal_amount 78000
no_of_months: 12
rate_of_Interest: 10
Submit

Neeraj Appari S073
Simple Interest = (780) Total Amount With Interest = (78780)

First window — HTML source:

```html
<!DOCTYPE html>
<!--
To change this license header, choose License Headers in Project Properties.
To change this template file, choose Tools | Templates
and open the template in the editor.
-->
<html>
    <head>
        <title>TODO supply a title</title>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
    </head>
    <body>
        <div>Simple Interest</div>
        <form action ="sijava">
            Principal_amount <input type="text" name="pa" value="" /></br>
            no_of_months: <input type="text" name="nof" value="" /></br>
            rate_of_Interest: <input type="text" name="roi" value="" /></br>
            <input type="submit">

        </form>
    </body>
</html>
```

Second window — sijava.java servlet source:

```java
 */

import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

/**
 *
 * @author LAXMINARAYANRO
 */
public class sijava extends HttpServlet {

    /**
     * Processes requests for both HTTP <code>GET</code> and <code>POST</code>
     * methods.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            int p,n,r,si,pi;
            p = Integer.parseInt(request.getParameter("pa"));
            n = Integer.parseInt(request.getParameter("nof"));
            r=  Integer.parseInt(request.getParameter("roi"));

            si= (p + n + r) / 100;
            out.println("Neeraj Appari 5073 \n ");
            out.println("</br>");
            String str = "Simple Interest = ("+si+") \n";
            out.println(str);
            pi= (si + p);
            String str1 = "Total Amount With Interest = ("+pi+")";
            out.println(str1);
        }
    }

    HttpServlet methods. Click on the + sign on the left to edit the code.

}
```