SELENIUM - LOCATORS

http://www.tutorialspoint.com/selenium/selenium_locators.htm

Locating elements in Selenium WebDriver is performed with the help of findElement and findElements methods provided by WebDriver and WebElement class.

- findElement returns a WebElement object based on a specified search criteria or ends up throwing an exception if it does not find any element matching the search criteria.
- findElements returns a list of WebElements matching the search criteria. If no elements are found, it returns an empty list.

The following table lists all the Java syntax for locating elements in Selenium WebDriver.

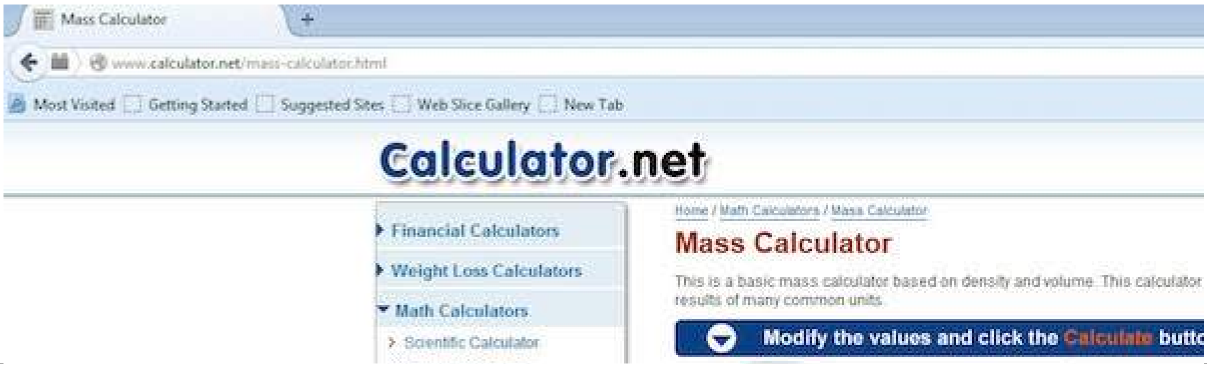
Method	**Syntax**	**Description**
By ID	driver.findElement*By. id(< elementID >)*	Locates an element using the ID attribute
By name	driver.findElement *By. name(< elementname >)*	Locates an element using the Name attribute
By class name	driver.findElement *By. className(< elementclass >)*	Locates an element using the Class attribute
By tag name	driver.findElement *By. tagName(< htmltagname >)*	Locates an element using the HTML tag
By link text	driver.findElement *By. linkText(< linktext >)*	Locates a link using link text
By partial link text	driver.findElement *By. partialLinkText(< linktext >)*	Locates a link using the link's partial text
By CSS	driver.findElement *By. cssSelector(< cssselector >)*	Locates an element using the CSS selector
By XPath	driver.findElement*By. xpath(< xpath >)*	Locates an element using XPath query

Locators Usage

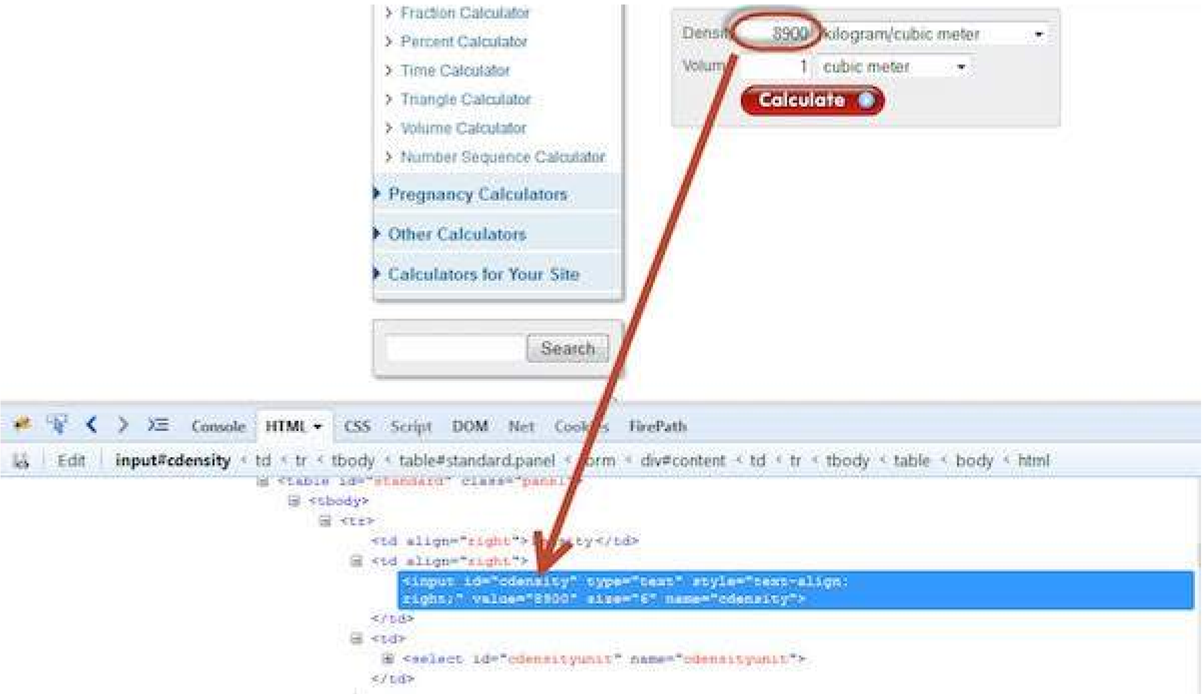
Now let us understand the practical usage of each of the locator methods with the help of http://www.calculator.net

By ID

Here an object is accessed with the help of IDs. In this case, it is the ID of the text box. Values are entered into the text box using the sendkeys method with the help of ID*cdensity*.



This is a basic mass calculator based on density and volume. This calculator results of many common units.



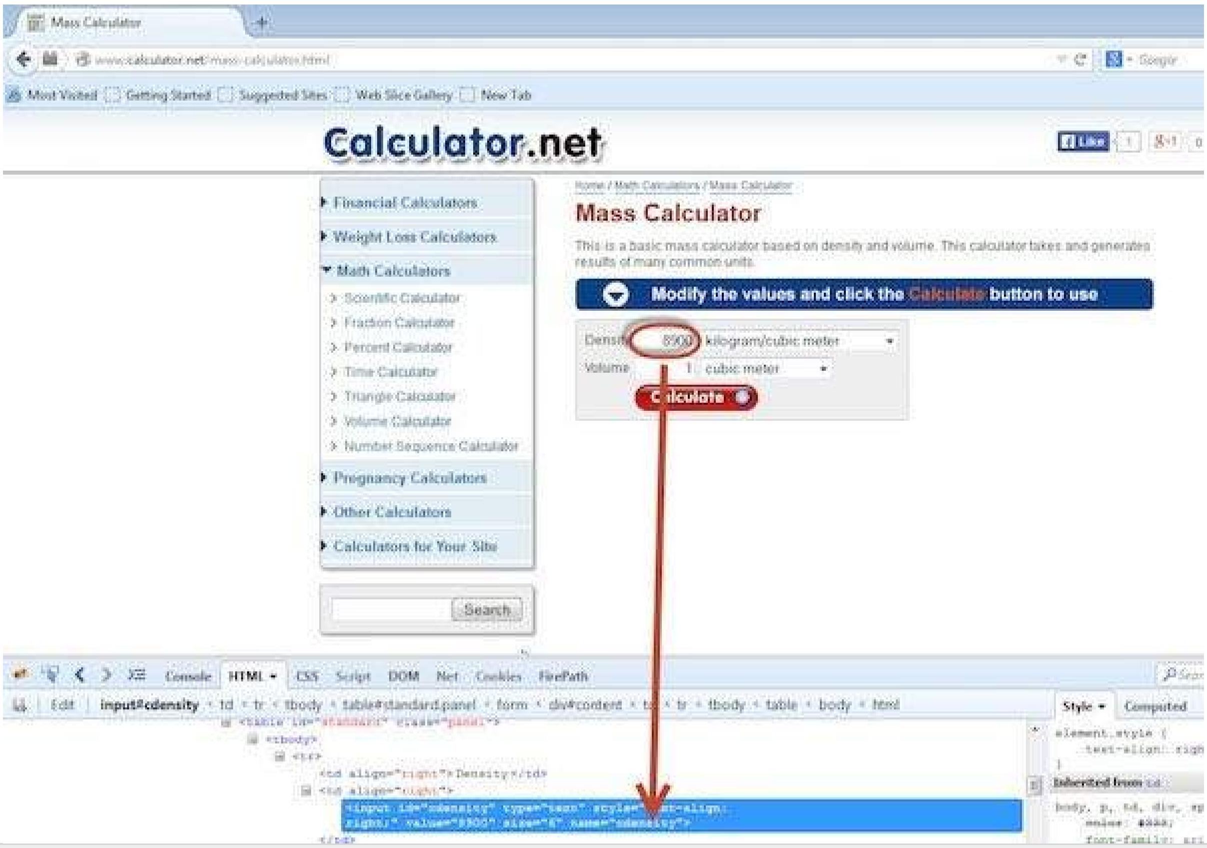
Fraction Calculator
Percent Calculator
Time Calculator
Triangle Calculator
Volume Calculator
Number Sequence Calculator
Pregnancy Calculators
Other Calculators
Calculators for Your Site
Search
Density 8900 kilogram/cubic meter
Volume 1 cubic meter
Calculate
Console HTML CSS Script DOM Net Cookies FirePath
Edit input#cdensity td tr tbody table#standard.panel form div#content td tr tbody table body html

```
<table id="standard" class="panel">
  <tbody>
    <tr>
      <td align="right">Density</td>
      <td align="right">
        <input id="cdensity" type="text" style="text-align:
        right;" value="8900" size="6" name="cdensity">
      </td>
      <td>
        <select id="cdensityunit" name="cdensityunit">
      </td>
```

```
driver.findElement(By.id("cdensity")).sendKeys("10");
```

By Name

Here an object is accessed with the help of names. In this case, it is the name of the text box. Values are entered into the text box using the sendkeys method with the help of ID*cdensity*.



Mass Calculator
www.calculator.net/mass-calculator.html
Most Visited Getting Started Suggested Sites Web Slice Gallery New Tab
Calculator.net
Like 1 g+1 0
Home / Math Calculators / Mass Calculator
Financial Calculators
Weight Loss Calculators
Math Calculators
Scientific Calculator
Fraction Calculator
Percent Calculator
Time Calculator
Triangle Calculator
Volume Calculator
Number Sequence Calculator
Pregnancy Calculators
Other Calculators
Calculators for Your Site
Search
Density 8900 kilogram/cubic meter
Volume 1 cubic meter
Calculate
Console HTML CSS Script DOM Net Cookies FirePath
Edit input#cdensity td tr tbody table#standard.panel form div#content td tr tbody table body html
Style Computed
Inherited from td

Mass Calculator

This is a basic mass calculator based on density and volume. This calculator takes and generates results of many common units.

Modify the values and click the Calculate button to use

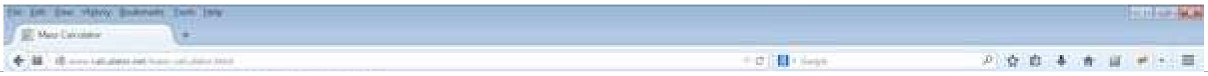
```
<table id="standard" class="panel">
  <tbody>
    <tr>
      <td align="right">Density</td>
      <td align="right">
        <input id="cdensity" type="text" style="text-align:
        right;" value="8900" size="6" name="cdensity">
      </td>
```

```
element.style {
    text-align: righ
}
body, p, td, div, sp
    color: #444;
    font-family: ari
```

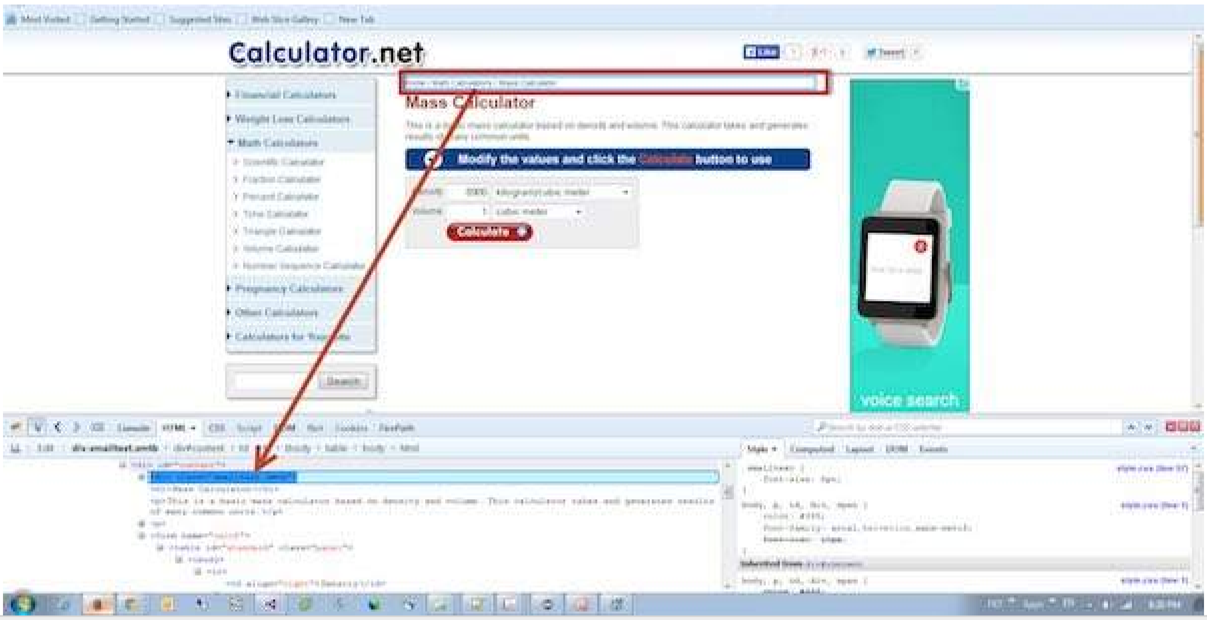
```
driver.findElement(By.name("cdensity")).sendKeys("10");
```

By Class Name

Here an object is accessed with the help of Class Names. In this case, it is the Class name of the WebElement. The Value can be accessed with the help of the gettext method.



File Edit View History Bookmarks Tools Help
Mass Calculator
www.calculator.net/mass-calculator.html
Google



```
List<WebElement> byclass = driver.findElements(By.className("smalltext smtb"));
```

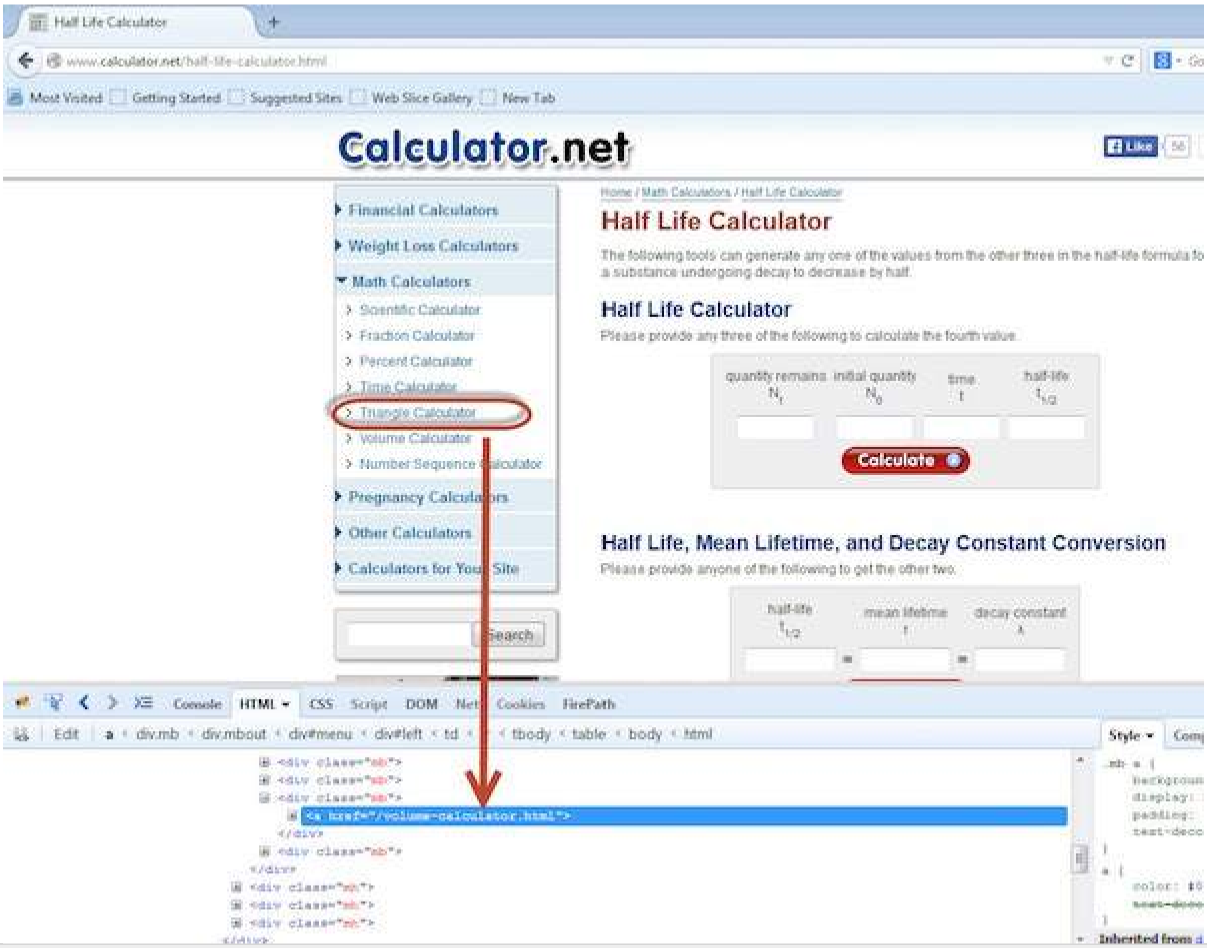
By Tag Name

The DOM Tag Name of an element can be used to locate that particular element in the WebDriver. It is very easy to handle tables with the help of this method. Take a look at the following code.

```
WebElement table = driver.findElement(By.id("calctable"));
List<WebElement> row = table.findElements(By.tagName("tr"));
int rowcount = row.size();
```

By Link Text

This method helps to locate a link element with matching visible text.



Half Life Calculator

The following tools can generate any one of the values from the other three in the half-life formula fo a substance undergoing decay to decrease by half.

Half Life Calculator

Please provide any three of the following to calculate the fourth value.

Half Life, Mean Lifetime, and Decay Constant Conversion

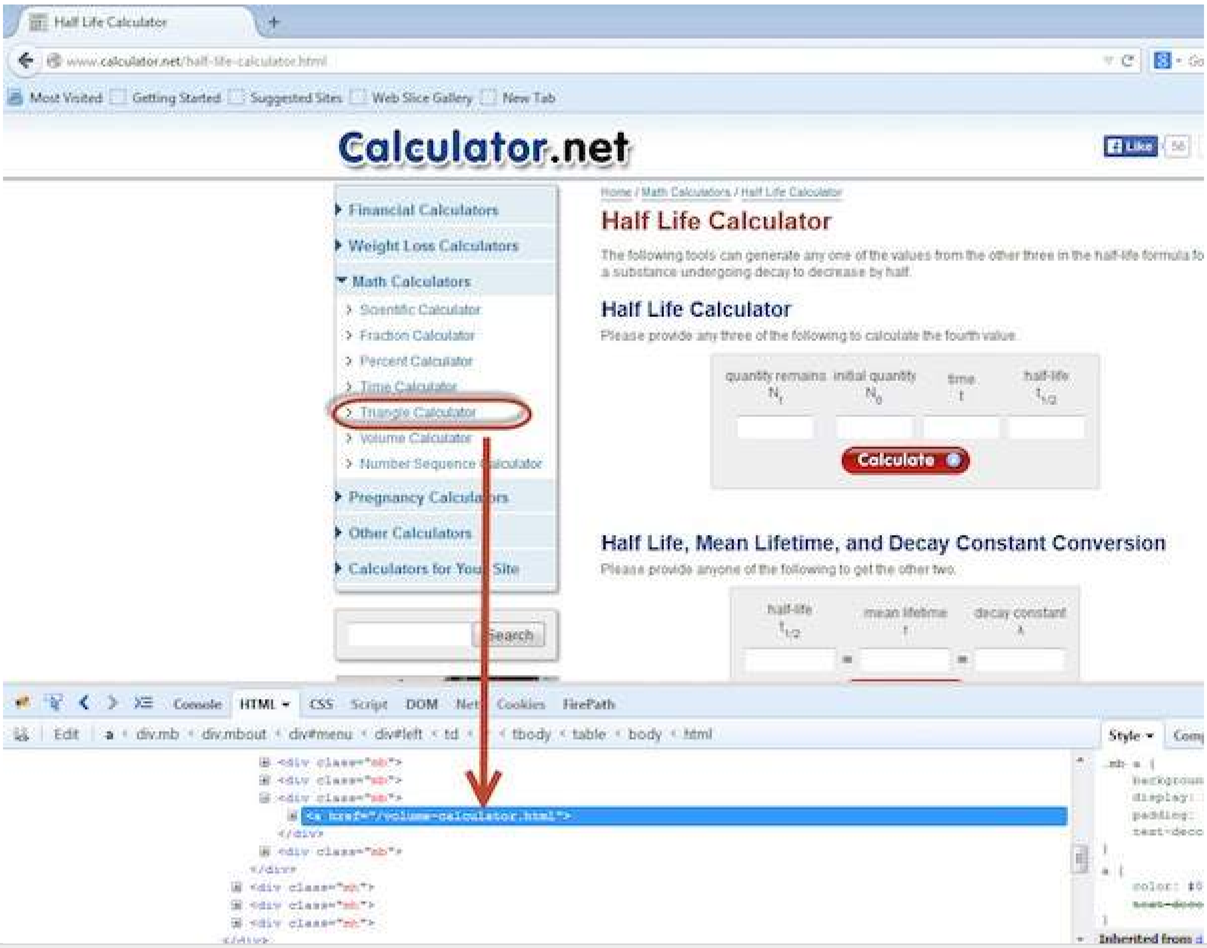
Please provide anyone of the following to get the other two.

```
<div class="mb">
<div class="mb">
<div class="mb">
  <a href="/volume-calculator.html">
</div>
<div class="mb">
</div>
<div class="mb">
<div class="mb">
<div class="mb">
</div>
```

```
driver.findElements(By.linkText("Volume")).click();
```

By partial link text

This methods helps locate a link element with partial matching visible text.



The following tools can generate any one of the values from the other three in the half-life formula fo a substance undergoing decay to decrease by half.

Please provide any three of the following to calculate the fourth value.

Please provide anyone of the following to get the other two.

```
<div class="mb">
<div class="mb">
<div class="mb">
<a href="/volume-calculator.html">
</div>
<div class="mb">
</div>
<div class="mh">
<div class="mh">
<div class="mh">
</div>
```

```
driver.findElements(By.partialLinkText("Volume")).click();
```

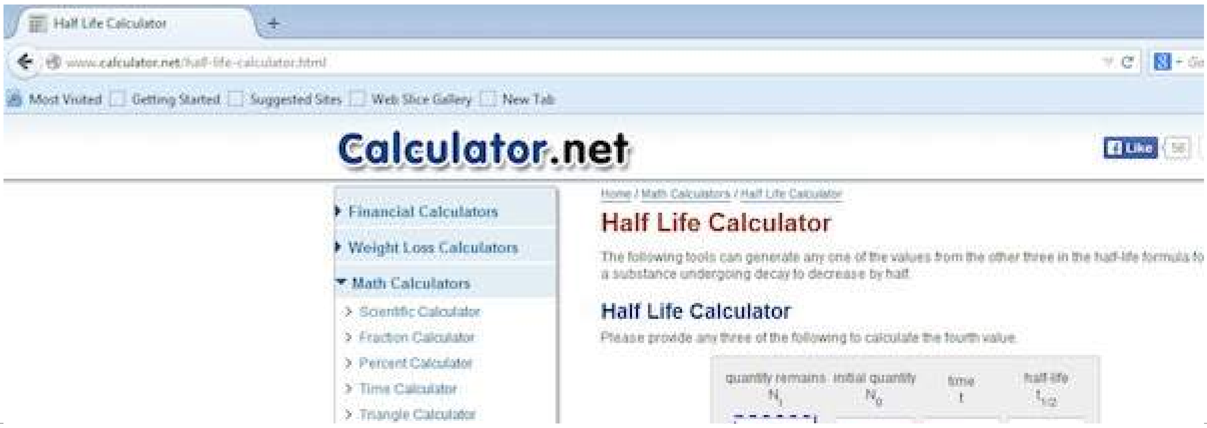
By CSS

The CSS is used as a method to identify the webobject, however NOT all browsers support CSS identification.

```
WebElement loginButton = driver.findElement(By.cssSelector("input.login"));
```

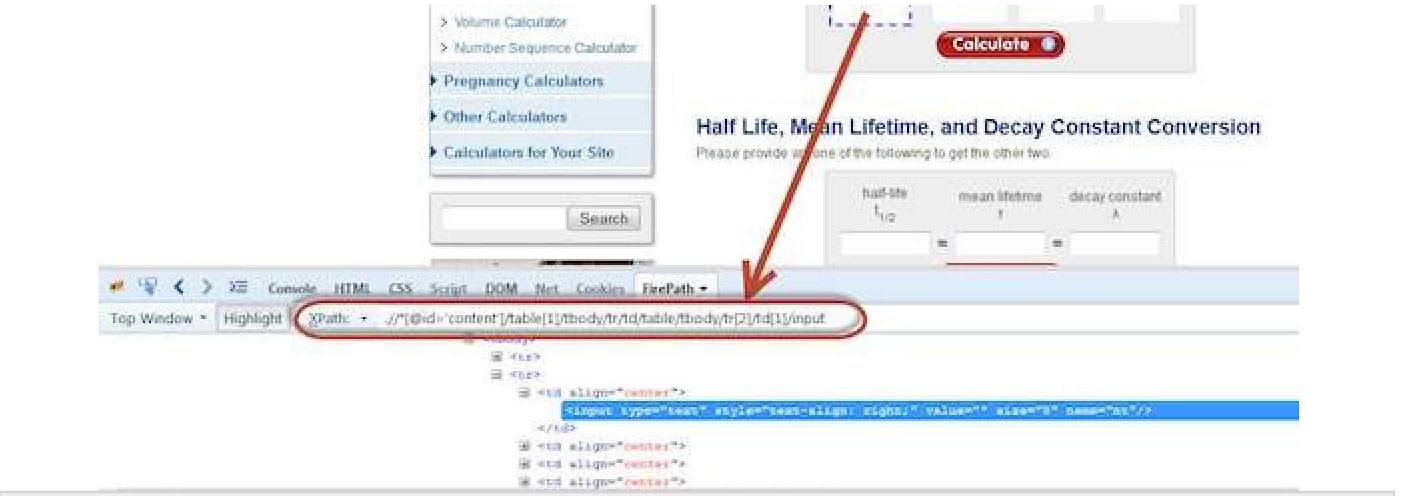
By XPath

XPath stands for XML path language. It is a query language for selecting nodes from an XML document. XPath is based on the tree representation of XML documents and provides the ability to navigate around the tree by selecting nodes using a variety of criteria.



The following tools can generate any one of the values from the other three in the half-life formula fo a substance undergoing decay to decrease by half.

Please provide any three of the following to calculate the fourth value.



Half Life, Mean Lifetime, and Decay Constant Conversion

Please provide any one of the following to get the other two.

XPath: .//*[@id='content']/table[1]/tbody/tr/td/table/tbody/tr[2]/td[1]/input

```
<tbody>
  <tr>
  <tr>
    <td align="center">
      <input type="text" style="text-align: right;" value="" size="8" name="nt"/>
    </td>
    <td align="center">
    <td align="center">
    <td align="center">
```

```
driver.findElement(By.xpath(".//*[@id='content']/table[1]/tbody/tr/td/table/tbody/tr[2]/
td[1]/input")).sendkeys("100");
```

Loading [MathJax]/jax/output/HTML-CSS/jax.js