Can you provide the calculation for the sum of squared deviations (Sxx) in Linear Regression?

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Linear Regression is a statistical technique used to model the relationship between a dependent variable and one or more independent variables. In this context, the sum of squared deviations (Sxx) refers to a measure of the total variability of the independent variable in the linear regression model. It is calculated by taking the sum of the squared differences between each data point and the mean of the independent variable. This calculation is important because it helps assess the strength of the relationship between the independent variable and the dependent variable, and can be used to determine the accuracy of the linear regression model. Therefore, requesting the calculation for Sxx is a common practice in Linear Regression analysis to ensure the validity and reliability of the model.

Sxx Calculator for Linear Regression

```
@import
url('https://fonts.googleapis.com/css?family=Droid+Serif|Raleway');

h1 {
text-align: center;
font-size: 50px;
margin-bottom: 0px;
font-family: 'Raleway', serif;
}

p {
color: black;
margin-bottom: 15px;
margin-top: 15px;
font-family: 'Raleway', sans-serif;
```

```
}

#words {
padding-left: 30px;
color: black;
font-family: Raleway;
max-width: 550px;
margin: 25px auto;
line-height: 1.75;
}

#words_summary {
padding-left: 70px;
color: black;
font-family: Raleway;
max-width: 550px;
margin: 25px auto;
line-height: 1.75;
}

#words_text {
color: black;
font-family: Raleway;
max-width: 550px;
margin: 25px auto;
```

```
line-height: 1.75;
}

#words_text_area {
display:inline-block;
color: black;
font-family: Raleway;
max-width: 550px;
margin: 25px auto;
line-height: 1.75;
padding-left: 100px;
}

#calcTitle {
text-align: center;
font-size: 20px;
margin-bottom: 0px;
font-family: 'Raleway', serif;
}

#hr_top {
width: 30%;
margin-bottom: 0px;
border: none;
height: 2px;
```

```
color: black;
background-color: black;
}

#hr_bottom {
width: 30%;
margin-top: 15px;
border: none;
height: 2px;
color: black;
background-color: black;
}

#words_table label, #words_table input {
display: inline-block;
vertical-align: baseline;
width: 350px;
}

#buttonCalc {
border: 1px solid;
border-radius: 10px;
margin-top: 20px;

cursor: pointer;
```

```
outline: none;
background-color: white;
color: black;
font-family: 'Work Sans', sans-serif;
border: 1px solid grey;
/* Green */
}

#buttonCalc:hover {
background-color: #f6f6f6;
border: 1px solid black;
}

#words_table {
color: black;
font-family: Raleway;
max-width: 350px;
margin: 25px auto;
line-height: 1.75;
}

#summary_table {
color: black;
font-family: Raleway;
max-width: 550px;
```

```
margin: 25px auto;
line-height: 1.75;
padding-left: 20px;
}

.label_radio {
text-align: center;
}

td, tr, th {
border: 1px solid black;
}
table {
border-collapse: collapse;
}
td, th {
min-width: 50px;
height: 21px;
}
.label_radio {
text-align: center;
}

#text_area_input {
padding-left: 35%;
```

```
float: left;
}

svg:not(:root) {
overflow: visible;
}
```

In statistics, Sxx represents the sum of squared deviations from the mean value of x.

This value is often calculated when fitting a linear regression model by hand.

To calculate Sxx for a given regression model, simply enter the list of the comma-separated values for the x-values of the dataset in the box below, then click the Calculate" button:

x values:

Sxx: 33.50000

```
function calc() {

//calculate sample mean
var x =
```

```
document.getElementById('x').value.split(',').map(Number);
var sxx = jStat.variance(x) *x.length;

//output sxx
document.getElementById('sxx').innerHTML = sxx.toFixed(5);

} //end calc function
```