What is the formula for calculating the Y-Hat value?

Authored by

stats writer

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The formula for calculating the Y-Hat value is the estimated or predicted value of the dependent variable (Y) in a regression model. It is calculated by multiplying the regression coefficient (β) by the independent variable (X) and adding the intercept (α). The resulting value represents the expected value of Y based on the relationship between X and Y in the regression model. This formula is used to make predictions and evaluate the strength of the relationship between the variables in the model.

Y-Hat Calculator

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

#button {
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 */
}

#button: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, the term y hat (written as y?) refers to the estimated value of a response variable in a linear regression model.

We write an estimated regression equation as follows:

? = b0 + b1x

where:

b0 = The average value of the response variable when the predictor variable is zerob1 = The average change in the response variable associated with a one unit increase in the predictor variablex = The value of the predictor variable

To calculate the value of y hat for a given regression model, simply enter the values for the regression model below and then click the alculate" button:

b0

b1

x

y? = 30.36000

```
function calc() {

//get input data
var b0 = +document.getElementById('b0').value;
var b1 = +document.getElementById('b1').value;
var x = +document.getElementById('x').value;

var y = b0 - (-1*b1*x);

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

} //end calc function
```