

How do I use Slovin's formula to calculate the sample size for a given population?

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RECOMMENDED CITATION

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Slovin's formula is a statistical method used to determine the appropriate sample size for a given population. It takes into account the desired level of precision and confidence level in the sample results. To use Slovin's formula, first determine the total population size. Next, determine the desired level of precision and confidence level. Then, plug these values into the formula: $n = N/(1+N(e^2))$, where n is the sample size, N is the population size, and e is the margin of error. The resulting sample size will provide a representative sample of the population with the desired level of precision and confidence. This formula is commonly used in surveys and research studies to ensure accurate and reliable results.

Slovin's Formula 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, Slovin's Formula is used to calculate the minimum sample sized needed to estimate a statistic based on an acceptable margin of error.

Slovin's formula is calculated as:

$$n = N / (1 + Ne^2)$$

where:

n = sample size
N = population size
e = acceptable margin of error

To use Slovin's formula, simply enter the population size and acceptable margin of error below and then click the alculate" button:

Population Size (N):

Acceptable Margin of Error (e):

Sample size (n): 200.000

```
function calc() {
```

```
//get input data
```

```
var N= +document.getElementById('N').value;
```

```
var e = +document.getElementById('e').value;
```

```
var n = N/(1 -(-1*N*e*e))
```

```
//output results
```

```
document.getElementById('n').innerHTML =  
n.toFixed(3);
```

```
} //end calc function
```