

Generating a Random Number

Overview

random

- **Return:** Returns a random number between 0.0 (inclusive) and 1.0 (exclusive) (ex. 0.738).
- **Arguments:** None
- **Usage:** random()
- **Example Usage:** When you need to generate a random number.
- For example, to generate a number between 5 (inclusive) and 23 (exclusive), you can use $(\text{random}() * (23 - 5)) + 5$. This will be something like 12.43334.
- You can convert that to a whole number by using $\text{int}((\text{random}() * (23 - 5)) + 5)$. You can also reference questions instead of directly typing numbers.
- Ex. $\text{int}(\text{random}() * (\#form/high_num - \#form/low_num) + \#form/low_num)$.
 - The output varies between low_num (inclusive) and high_num (exclusive)

You can generate either a random decimal number (ex. 8.9) or a random integer (ex. 22) using the random() function. Set the calculate expression of your question to the following:

1. For a random decimal: $\text{start_num} + (\text{random}() * (\text{end_num} - \text{start_num}))$ For example, to generate random number between 10.3 and 30.9, you can use $10.3 + (\text{random}() * (30.9 - 10.3))$
2. For a random integer: $\text{start_num} + \text{int}(\text{random}() * (\text{end_num} - \text{start_num}))$ For example, to generate random number between 9 and 22, you can use $9 + \text{int}(\text{random}() * (22 - 9))$

You can also replace start_num and end_num with references to other questions in your form (ex. #form/my_start_range_question). Please make sure that they are required or have value so that the calculate expression works.

Notes on the random() Function:

- If random() is used within a calculate or display condition, the value will change and be recalculated many time as the form is filled out
- To generate a random number once when the form is opened, add a hidden value and then put the random() logic inside the Default Value logic of the hidden value (its in Advanced Section).
- If you're using random() to generate or calculate number that is shown to the user, then its best practice to put random() inside of the default value section as described above.