

Program_10_1

Requirements

The infinite monkey theorem states that a monkey hitting keys at random on a typewriter or keyboard for an infinite amount of time will almost surely type the complete works of William Shakespeare. In this program you will put this theorem to the test by using the **rand()** function to create random sequences of letters and the underscore symbol until the desired sequence is created. While attempting to create the desired sequence you must count the number of random attempts needed to create the sequence and measure the time to create the sequence.

Our ultimate goal is to create the phrase: **"to_be"**

Please note that it can take a few minutes on average to randomly generate this phrase depending on your computer's resources and, well, randomness in general. It may run in under a few seconds once, and take over a minute a second time.

Program

```
% Filename: Program_10_1
% Author:
% Assisted by:
```

Example Output

Below is an example of a GUI that satisfies all requirements. You may play around with the design however, it should be intuitive to use and satisfy the requirements above.

Output for Program_10_1 written by Geoff Berl.

The attempted sequence is: t

It took 5 attempts to create the sequence: t

Elapsed time is 0.004639 seconds.

The attempted sequence is: to

It took 1158 attempts to create the sequence: to

Elapsed time is 0.014514 seconds.

The attempted sequence is: to_

It took 16909 attempts to create the sequence: to_

Elapsed time is 0.029363 seconds.

The attempted sequence is: to_b

It took 448322 attempts to create the sequence: to_b

Elapsed time is 0.661105 seconds.

The attempted sequence is: to_be

It took 1.61029e+07 attempts to create the sequence: to_be

Elapsed time is 24.179492 seconds.