Introduction:

In probability theory, the birthday problem concerns the probability that, in a set of n randomly chosen people, some pair of them will have the same birthday. By the pigeonhole principle, the probability reaches 100% when the number of people reaches 366 (since there are 365 possible birthdays, excluding February 29th). We would need 183 people (half of 365) to reach a 50% probability. However, 99% probability is reached with just 57 people and 50% probability with just 23 people. These conclusions assume that each day of the year (except February 29) is equally probable for a birthday.

Given a group of 20 people and performing 10,000 simulation runs, your program should report that 41.24% of the time there were two people that shared the same birthday.

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The process function check for the correct group size after processing the group size it will do the calculation using the calculate function from the size and count value.

The calculate function process the algorithm.

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