**BirthdayChecker Documentation**

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**Introduction**

Welcome to the BirthdayChecker program, a tool designed to simulate and calculate the probability of two or more people sharing a birthday in a classroom! Through extensive simulation, the BirthdayChecker program demonstrates the likelihood of shared birthdays within a customizable group size, and displays the chance of occurrence as a percentage.

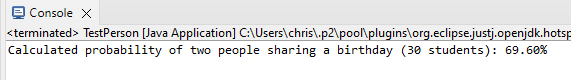
**Using BirthdayChecker**

The program allows you to change the sample data to any measure you see fit, including the number of students and trial runs. For standard trial runs, please use **30** students in the classroom and **10,000** total trials. The simulation relies on two Java classes to function: Person and TestPerson. Firstly, the Person class allows the creation of a Person object with a random birth month and birthday within a reasonable bound. This allows for consistent replication of potential birthdays amongst the students in the classroom. Lastly, the Person class allows a Boolean check to determine if the current Person in reference shares a birthday with another Person in reference. The TestPerson class is where the simulation occurs. As previously stated, you can configure the number of students and number of trials to whatever you see fit. There is an integer for the count that keeps track of how many shared birthdays occur per simulation. The simulation is ran, and the results are printed in percentage format to the console. The higher number of trials that you perform will always result in more accurate results.

**Understanding the Results**

By default, the BirthdayChecker program will run 10,000 total simulations with 30 students per classroom. The purpose of this simulation is to determine how many people have shared birthdays in the classroom of 30 students. Based on the results of the 10,000 simulations, you can expect to see on average around a 70% chance of two students sharing the same birthday in those 10,000 trials.

**In-Depth Results**

The BirthdayChecker program is a practical representation of simulating the chance of two students sharing a birthday in 10,000 trials. By running a larger amount of trials, we are provided a better insight into the surprisingly high probability of two or more people sharing the same birthday in a considerably small group. The program clearly highlights real-world application in our everyday lives.