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**Birthday Program Documentation**

**Person Class**

This class gives a person a birthday value in the form of an integer using MM/DD format. The class uses a Person constructor to initialize the birthday variable and implements a getter and setter method that can either query or change the birthday value.

**Birthday Calculator Class**

The Birthday Calculator class creates a method that calculates the probability that someone else in the room shares your birthday. The method is called the following:

* runBirthdayCalculator()

The class extends the Person class so the getter and setter methods can be used in the tester class to obtain the person’s birthday. In short, the above method takes a parameter which indicates how many people are in the person’s class and calculates the probability that someone shares their birthday using the formula gotten from doing book problem 2.61. The formula is represented as follows:

()n

The letter n represents how many people are in the class. This formula assumes that we are interested in finding the probability of only one other person sharing a birthday but can be changed to be the probability of more than one person sharing a birthday by using factorials.

**Tester Class**

The tester class is where the BirthdayCalculator object is created which can access a Person objects birthday and change it. The tester program prints the result in the form of a percentage after separating two different calculations for someone with a birthday on Christmas Day that has 253 people in their class and for someone with a birthday on October 5th that has 20 people in their class. Running the program allows the user to see the results as they are, but the user can also change the birthday to their own using the setter methods and can also change how many people are in their class by changing the parameter.