Lab04: Data Type, Condition, Iteration

In this lab, you will write a program to retrieve a person information and determine whether that person is eligible to vote or not. You are provided with the `ElectionTester` class, which is a program starter class. You have to finish the following tasks to earn your credit for this lab.

Task 1: Modify the `MyDate` class from Lab03 by creating a new static method

`int yearDiff (MyDate start, MyDate end):` to calculate the full year difference between two `MyDate` objects (`start` and `end`). For example, if the start date is 1st December 2000 and end date is 30th January 2018, the year difference is 17 years. If the start date is later than end date, the method returns -1. Note. This method can be used to find age of a person.

Task 2: Create a `Person` class to store information of a person with the following requirements.

Instance Variables

```
– firstname: String
– lastname: String
– birthday: MyDate
```

Constructors

`Person(String aFirstname, String aLastname):` Sets firstname and lastname to be aFirstname and aLastname respectively; creates a birthday object with the default value of `MyDate` class.

`Person(String aFirstname, String aLastname, int aYear, int aMonth, int aDay):` Sets firstname and lastname to be aFirstname and aLastname respectively; creates a birthday object with year, month, and day to be aYear, aMonth, and aDay respectively.

Instance Methods

`int getAge(MyDate aDate):` Returns how old of this person on a given day (`aDate`)
Hint! You may use `yearDiff()` method in the `MyDate` class to compute it.

`boolean isEligible(MyDate elecDate):` Checks if the person is eligible to vote. A person who is eligible to vote must be older than or equal to 18 years old on the election day. The election day is provided as a parameter `elecDate`. For example, if the election day is 23th March 2019, any person who born before or on 23th March 2001 is eligible.

`void printPersonInfo():` Prints a person information in the following format

```
Person: Lalisa  Manoban
Birthday: 27 March 1997
```

Task 3: Modify the `ElectionTester` class with the following requirements.

1) In this class, two Person objects are provided. Your task is to add a new `Person` object with your information then print your information, age, and election eligibility. Expected output:

```
Person: Lalisa  Manoban
Birthday: 27 March 1997
Age: 21
This person is eligible to vote.
-----------------------------------
Person: Nuda  Inter
Birthday: 16 January 2012
Age: 7
This person is NOT eligible to vote
-----------------------------------
Person: YourName  YourLastname
Birthday: 1 February 1998
Age: 21
This person is eligible to vote.
-----------------------------------
```

2) Write a program to take 3 persons' information from the user and print their information, age, and election eligibility. (Hint: Use `Scanner` and for loop to get inputs) Expected output:

```
Enter firstname: Siripen
Enter lastname: Pongpaichet
Enter year of birthday: 2000
Enter month of birthday: 9
Enter day of birthday: 4
Person: Siripen  Pongpaichet
Birthday: 4 September 2000
Age: 18
This person is eligible to vote.
-----------------------------------
```

Challenge Bonus (Optional):

Instead of taking only 3 persons' information, write a program to continuously taking input from the user until the user types 'q' to quite the program. Expected output:

```
Enter firstname or type 'q' to exit: Siripen
Enter lastname: Pongpaichet
Enter year of birthday: 2000
Enter month of birthday: 9
Enter day of birthday: 4
Person: Siripen  Pongpaichet
Birthday: 4 September 2000
Age: 18
This person is eligible to vote.
-----------------------------------
Enter firstname or type 'q' to exit: q
Exit the program. Thank you.
```

Peer Bonus (Optional):