COP2805C Module 3 Practice Exercise

For this practice exercise we will implement a varargs method (also known as "variable arity") as discussed in Chapter 5 of our textbook (Methods). Note that variable arity is used in some Java APIs that we are already familiar with (e.g. the System.out.printf method).

- Add a new feature to the Happy Birthday App from module 2 which uses a loop to allow the user to enter multiple birthdays. The HappyBirthdayApp class should store these in an ArrayList (the "birthday list").
- Add a method with variable arity which accepts a variable number of User objects and adds them to the birthday list.

In my solution you will see that I removed the desired time zone ArrayList from the Happy Birthday App and encapsulated it in its own class (DesiredTimeZones). The showTZMenu method was moved from the HappyBirthdayApp class into this new class.

The variable arity method "addBirthdays" can be found in the HappyBirthdayApp class.

Sample output (two users entered manually, three users entered for the varargs method test):

> **Would you like to enter a user's birthday information? (y/n): y**
> **Please enter the user's first name: David**
> **Please enter the user's last name: Smith**
> **Please enter the year of the user's birthday: 1970**
> **Please enter the month of the user's birthday: 5**
> **Please enter the day of the user's birthday: 13**
> **1. US/Alaska**
> **2. US/Aleutian**
> **3. US/Arizona**
> **4. US/Central**
> **5. US/East-Indiana**
> **6. US/Eastern**
> **7. US/Hawaii**
> **8. US/Indiana-Starke**
> **9. US/Michigan**
> **10. US/Mountain**
> **11. US/Pacific**
> **12. US/Samoa**
> **Please select the number of the user's timezone from the menu: 7**
> **Would you like to enter a user's birthday information? (y/n): y**
> **Please enter the user's first name: Jesse**
> **Please enter the user's last name: Coleman**
> **Please enter the year of the user's birthday: 1985**
> **Please enter the month of the user's birthday: 1**
> **Please enter the day of the user's birthday: 29**
> **1. US/Alaska**
> **2. US/Aleutian**
> **3. US/Arizona**
> **4. US/Central**
> **5. US/East-Indiana**
> **6. US/Eastern**

7. US/Hawaii
8. US/Indiana-Starke
9. US/Michigan
10. US/Mountain
11. US/Pacific
12. US/Samoa
Please select the number of the user's timezone from the menu: 1
Would you like to enter a user's birthday information? (y/n): n
Hello, here are the birthdays:
David Smith,1970-05-13T00:00-10:00[US/Hawaii]
Sorry, today is not their birthday.
Jesse Coleman,1985-01-29T00:00-09:00[US/Alaska]
Happy Birthday to Jesse Coleman
Sally Roberts,2001-06-02T00:00-06:00[US/Mountain]
Sorry, today is not their birthday.
Dianne Romero,1997-09-16T00:00-05:00[US/Central]
Sorry, today is not their birthday.
Edwin Peterson,1991-01-29T00:00-05:00[US/Eastern]
Happy Birthday to Edwin Peterson