Lab 5: Partners

You will write a program that receives the names of several people on a team. It will then alphabetize the people, count the number of possible pairings of them, and output every one.

For example, it might look like this:

```
How many people are there?  4
Please enter the names of those people:
    Person 1: Dana
    Person 2: Bob
    Person 3: Alice
    Person 4: Charlie

Thank you.  There are 6 possible pairings.  They are:
    Alice & Bob
    Alice & Charlie
    Alice & Dana
    Bob & Charlie
    Bob & Dana
    Charlie & Dana
```

Here are some hints:

- The formula for counting all possible pairs from among n people is $n \times (n-1) \div 2$.

- You will probably want to store the people's names in an array of strings. First allocate the array when you know how big it needs to be, then do a for loop through the array to gather all the names from the user.

- The people should be alphabetized before printing out the pairs. You can do this via the `Arrays.sort()` method. In order to use `Arrays.sort()`, you must `import java.util.Arrays;` before beginning your class block.

- You will need to use nested for loops to print out the pairings.

- Try to fit everything you can into subfunctions. A professional programmer might have only two lines in his or her `main()` function!

- Your program should behave reasonably well if the user enters `0` or `1` as the number of people, or even a negative number. In the latter case, it should just politely inform the user that a negative number isn't allowed, and terminate. To immediately terminate the program without executing any further, run the instruction `System.exit(1);`.

This class should be called `Partners`.