* Lambdas and functional interfaces and streams

1. Basic lambdas. Make an array containing a few Strings. Sort it by

• length (i.e., shortest to longest)

(Hint: this exact solution was shown in the lecture)

• reverse length (i.e., longest to shortest)

(Hint: minor variation of the first bullet)

• alphabetically by the first character only

(Hint: charAt(0) returns the numeric code for the first character)

• Strings that contain “e” first, everything else second. For now, put the code directly in the lambda.

(Hint: remember that the body of a lambda is allowed to have curly braces and a return statement.

See the first two lambda examples in the notes.)

• Redo the previous problem, but use a static helper method so that your lambda looks like this:

Arrays.sort(words, (s1,s2) -> Utils.yourMethod(s1,s2))

1. Using Java 8 features write a method that returns a comma separated string based on a given list of integers. Each element should be preceded by the letter 'e' if the number is even, and preceded by the letter 'o' if the number is odd. For example, if the input list is (3,44), the output should be 'o3,e44'.
2. Given a list of Strings, write a method that returns a list of all strings that start with the letter 'a' (lower case) and have exactly 3 letters. TIP: Use Java 8 Lambdas and Streams API's.

* Date-Time API

1. Which class would you use to store your birthday in years, months, days, seconds, and nanoseconds?
2. Given a random date, how would you find the date of the previous Thursday?
3. What is the difference between a ZoneId and a ZoneOffset?
4. How would you convert an Instant to a ZonedDateTime? How would you convert a ZonedDateTime to an Instant?

1. Write an example that, for a given year, reports the length of each month within that year.
2. Write an example that, for a given month of the current year, lists all of the Mondays in that month.
3. Write an example that tests whether a given date occurs on Friday the 13th.