

1. In your own words, explain what *pseudocode* is.
2. In your own words, explain what *procedural decomposition* is. If you haven't heard this phrase before, it is okay if you look it up.
3. Give an example of a complex task in your life that can be divided into at least three high-level subtasks. List the subtasks in the order done.
4. For each of the subtasks, list the steps needed to complete the subtask.
5. Rewrite your answer to Questions 3 and 4 as pseudocode. As an example, the next page has pseudocode for how to make a pot of tea. Notice that it divides tasks into smaller tasks that logically go together and tasks stop subdividing once each is simple and needs no further explanation.
6. Give an example of a complex task that can be divided into high-level subtasks where one of the subtasks occurs more than once. Write the task in pseudocode, demonstrating that the redundant subtask is called for more than once. (Don't write pseudocode for the subtasks; just for the highest-level task.)
7. When naming a variable, method, constant or class in Java it is good practice to make the name self-explanatory and follow these rules:
 - variables are camelCase beginning with a lower-case letter,
 - methods are camelCase beginning with a lower-case letter,
 - classes are CamelCase beginning with an upper-case letter, and
 - constants are ALL_UPPER_CASE with an underscore between words.

Rewrite the following small class correcting all of the naming mistakes.

```
public class a {  
    public static final double b = 2.54;  
    public static double c(double d) {  
        double e = d * b;  
        return e;  
    }  
}
```

Pseudocode for making tea

This is an example of procedural decomposition. The procedure of making tea is broken down into four simpler procedures. Each of those simpler procedures is broken down into even simpler steps. This continues until every step needs no further explanation.

make tea:

- boil water
- combine water and tea leaves in teapot
- wait while tea steeps
- pour cup of tea

boil water:

- add water to kettle up to the max line
- switch kettle on
- wait until kettle beeps

combine water and tea leaves in teapot:

- pour boiling water into teapot
- add 1 tablespoon of tea leaves per 16 ounces of water
- stir with a spoon

wait while tea steeps:

- note current time
- wait for five minutes to pass

pour cup of tea:

- get empty cup
- fill cup 3/4 full with tea
- fill remainder of cup with milk