Coding Basics Badge

Pseudocode

Pseudocode is a way to plan a computer program using human-friendly language. "Pseudo" is Greek for "false," so pseudocode is "false (or imitation) code." It's not actual coding, but a written description of the key elements of an algorithm or program. It's used as a quick way of thinking about a program without completely writing it out in code. Pseudocode saves the programmer time and still lets her check that her program will run.

PSEUDOCODE SYNTAX

Programming syntax has to be exact, but pseudocode syntax can be more flexible. For beginning programmers, thinking of a series of steps — like a recipe that can be followed — is a good place to start.

Here's an example of pseudocode for a program called *Drawing a Smiley Face*:

- Take a sheet of paper
- Get a pencil
- Draw an circle
- Draw the eyes
- Draw the smile

You can be a little more specific, but it's best not to use too many details. Just plan out the order of the steps you think you'll need. For example, you could write:

- Get a sheet of paper
- Get a pencil
- Draw a circle in the middle of the page
- Draw one eye inside the circle on the right side
- Draw the other eye inside the circle on the left side
- Draw the smile inside the circle under the eyes
- Blank sheet of paper for each girl
- Pen or pencil for each girl

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Write the steps you did as a "computer" in Step One in the box below.

Your set of steps is a record of the pseudocode you followed as a "computer."

TIPS FOR WRITING PSEUDOCODE:

1. **Write only one statement per line.** The main purpose of pseudocode is to break down a complex process into simpler parts. Keeping one statement per line helps with this process.
2. **Capitalize the first keyword of each main direction.** This is typically the verb of the statement, and it helps later when you are naming the functions in the code you write.
3. **Write what you mean,** not how to program it.
4. **Use general programming structures so it *looks like* code** -- this helps when changing the pseudocode into real code! Use **blocks** of pseudocode to structure steps. Use indents in your pseudocode to clarify the algorithm's structure.
5. **Add comments if necessary.** Comments can be helpful in clarifying the pseudocode. Comments can be shown with "//" in front of the start of the note, and end with another "//".

HERE'S AN EXAMPLE OF PSEUDOCODE THAT USES BLOCKS, INDENTS, AND COMMENTS:

```
//steps for an animated image with text//

    // get images //
    Get picture of cat
    Get picture of sunglasses

    //write the text on the image //
    Get green marker
        Write "I was coding before coding was cool" at the bottom of the picture

    // loop sunglasses appearing & disappearing on cat //
    Repeat forever:  Show cat picture with text for 3 seconds
    Then show cat picture with text and sunglasses on cat for 3 seconds
```