

Pseudocode (p-code) is an informal language to help formulate algorithms and organize programs. Development of pseudocode is done in step-wise refinement, from high-level, terse language to detailed, almost-code-like language. P-code includes algorithms, major data structures, and an outline of each subroutine.

Rubric	Level 4	Level 3	Level 2	Level 1
Pseudocode (P-code)	P-code is very clear, understandable, readable, and organized into functions. The code can be easily converted into a program.	P-code is clear, understandable, and the code is organized into functions for a few of the algorithms. The code can be converted into a program.	P-code is terse and somewhat understandable, but very little of the code is organized into functions. The code can be converted into a program only with much difficulty.	P-code is difficult to understand and is unorganized. Code cannot be converted into a program.

A sample of pseudocode follows.

Initial design:

```
listen for the letters 'q', 'w', 'e', 'd', 'c', 'x', 'z', and 'a' and move the blue square
around the window
```

Pseudocode:

```
key entered routine
listen for the keyboard
if:
    'q' - move upper-left or xloc-5, yloc-5
    'w' - up - yloc-5
    'e' - upper right - xloc+5, yloc-5
    'd' - right - xloc+5
    'c' - lower right - xloc+5, yloc+5
    'x' - down - yloc+5
    'z' - lower left - xloc-5, yloc+5
    'a' - left - xloc-5
otherwise: ignore key
```

In designing pseudocode, ask yourself the following questions:

- Is the p-code organized?
 - Do the major variables and initialization functions appear first?
 - Are the functions defined in a hierarchical fashion?
- Is the p-code readable?
 - Can you make sense of the p-code? Is it clear?
 - Is each function focused on its main purpose?
 - Is a function the right length? Not too long or short?
- Can the p-code be converted into a program?
 - Are all of the major p-code variables used when programming?
 - Is each subsection an independent function in the final program?
 - Can each line in the p-code convert neatly into 3-5 lines of code?

Review the following four samples of pseudocode and answer the questions. Provide examples and suggest improvements.

Sample #	Is the p-code organized?	Is the p-code readable?	Can the p-code be converted into a program?
1			
2			
3			
4			