

### An Online IDE for the Praxis CS Test Pseudocode

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### **Praxis Prep Course**

- Taught online by CodeVA
- By teachers, for teachers
- Synchronous sessions
- Asynchronous modules
- About 4 months long

### **Research Study**



- Fall 2023 cohort: 14 teachers with little to no use of Praxly
- Fall 2024 cohort: 12 teachers with extensive use of Praxly
- Analyzing surveys, interviews, and pre/post test scores

### **Try Praxly Today!**



# How do high school teachers prepare for a standardized test in a language that doesn't exist?



- Customizable user interface
- Additional language features



### Praxly turns the Praxis pseudocode into real programs that can be run and debugged.

Example Programs		Rur	n р Debu	g 🔯 Share <	Manual 📙 🛛	Reset 🔿
unction returns the factorial of a number. int n) < 2) eturn n f n n * fact(n - 1) inting different numbers to test your code! t(5)	commonvariablesmathtextlogicloopsprocedures	<pre>// This int int if ( return end if return end fa // Try print fa</pre>	s function returns the fact ( ) ( ) ( ) n < 2 n < 2 n < 2 n < 2 n < 1 fact n < 5	factorial of a number.	1	
	Variable		Туре	Value	Scope	

## • Embed in LMS via <iframe>

• Free and open source

### Code Tracing Practice

Prompt: What does the program below do? Try to read the code and/or trace it and try to predict the results. When you are ready to read the answer, run the program to see what it does.

- print "How old are you? String age ← input()
  int ageInt ← int(age)
- print "You are approximately " + age \* 365.25 +

### Praxly makes the pseudocode more concrete and hands-on!

To learn more about Praxly, visit praxly.cs.jmu.edu. To learn more about CodeVA's Praxis Prep course, visit codevirginia.org. This work was supported by National Science Foundation award **2219770**.

- Text Editor and Block Editor
- Bidirectional synchronization
- Easy-to-use step debugger
- Share source code via URL





### Praxis CS Test

- \_\_\_\_\_ IV. V.

### Sample Question

• Pathway for K-12 CS endorsement • Offered by Educational Testing Service • 3 hours, 100 multiple-choice questions • Many questions based on *pseudocode* 

Content Categories	Approx # of Questions		
Impacts of Computing	15		
Algorithms and	25		
Computational Thinking			
Programming	30		
Data	15		
Computing Systems and	15		
Networks			

Consider the following pseudocode procedure, which sorts an integer array arr of length len. The first element of arr is at index 0. A call swap ( arr, i , j ) swaps the values of arr[i] and arr[j].

```
void sort ( int[] arr, int len )
    int pos \leftarrow 0
    while ( pos < len )</pre>
         if ( pos == 0 )
              pos \leftarrow pos + 1
         else
              if ( arr[pos] > arr[pos - 1] )
                   pos \leftarrow pos + 1
              else
                   swap ( arr, pos, pos - 1 )
                   pos \leftarrow pos - 1
              end if
         end if
    end while
end sort
```

If arr originally contains the values {2, 1, 5, 3, 4}, what will the values in arr be after 6 iterations of the while loop?

(A) {1, 2, 3, 4, 5} (B) {1, 2, 3, 5, 4} (C) {1, 2, 5, 3, 4} (D) {2, 1, 5, 3, 4}