

IF - ELSE coding

- The problem:

```
IF N>=0 AND N<70 print "F"  
ELSE-IF N>=70 AND N<=100 print "P"  
ELSE-IF N>0 OR N>100 print "I"
```

- many structurally different solution (all right)

- 3-4 cases (any order)

- list of interface cases
- list of semantic cases

- within case

- relation can have any order of arguments
- if, else if - with tests
- else with no tests

- cognitive tutor
- 24 production rules

IF - ELSE coding

A cognitive tutor for programming if-else structure

Problem - the task for a student

Task: Write a program that reads one input.

If the input is between 0 and 69 print "FAIL".

If the input is between 70 and 100 print "PASS".

Otherwise print "OUT OF RANGE".

- there are a lot of right solutions
- the tutor should accept them all



Templates & WM

(deftemplate MAIN::problem)	;modified
(deftemplate MAIN::interface-case)	;new interface for
(deftemplate MAIN::semantics)	;new top level
(deftemplate MAIN::cond-case)	;new cond case
(deftemplate MAIN::cond-spec)	;new test semantics
(deftemplate MAIN::action)	;new action semantics

Working memory

- binding the interface and specific elements
- specify the semantics

The production rules

- IF, ELSE IF, ELSE
 - 2 various rules for ELSE
- OUTPUT
- AND, OR(not working)
- tests ($N \geq 0$, $N < 70$, $N \geq 70$, $N \leq 100$, $N < 0$, $N > 100$)
 - 2 rules for each test
- other rules
 - else action, done button, else or, else or action
- buggy rules + hints

NetBeans - JAVA interface

Write a program that reads one input N.

If the input is a number between 0 and 69 print F.

If the input is a number between 70 and 100 print P.

Otherwise print I.

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>			

Hint

Done

Student Interface

Student

Write a program that reads one input N.

If the input is a number between 0 and 69 print F.

If the input is a number between 70 and 100 print P.

Otherwise print I.

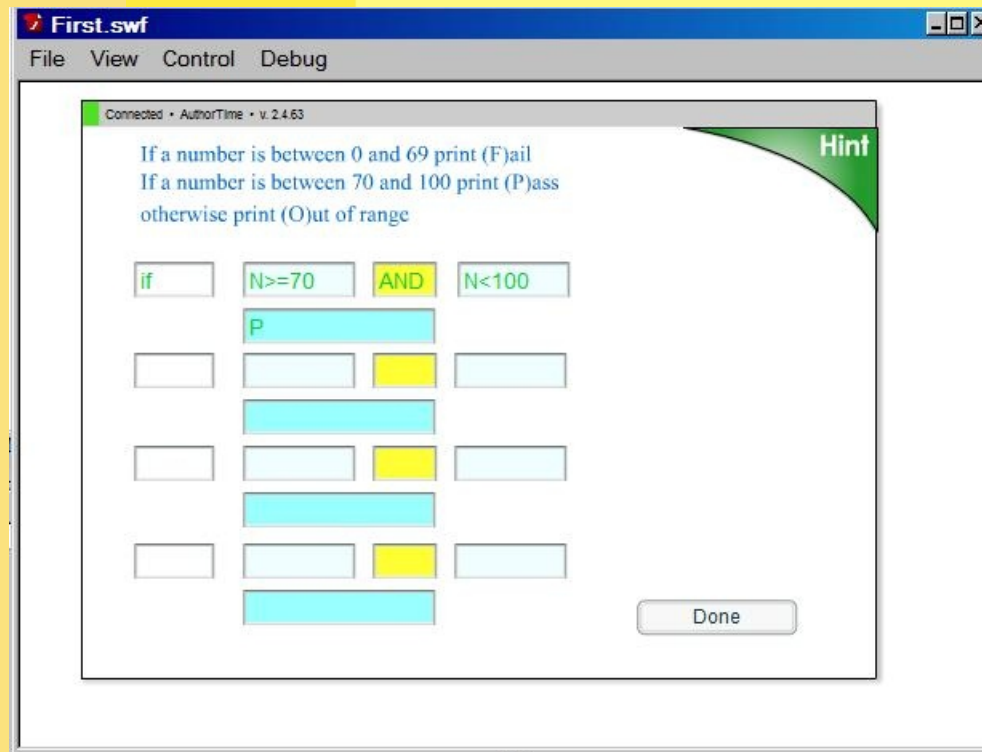
if	N>=0	AND	N<69
F			
else if	N>=70	AND	N<=100
P			
else	<input type="text"/>	<input type="text"/>	<input type="text"/>
I			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>			

Hint

Done

Flash interface

- the same interface can be transferred into flash





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and PSLC team :)**