

# Mixed Week 7

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## Tutorial

1. Identifiers are listed in order of their appearance in the source. Subscripts have been used to distinguish between different variables of the same name:

- Line 1 – `foo`, defining; `input`, defining; `output`, defining.
- Line 3 – `a1`, defining; `array`, applied.
- Line 5 – `b1`, defining; `a1` applied.
- Line 7 – `bar`, defining; `a2`, defining; `integer`, applied.
- Line 9 – `b2`, defining; `boolean`, applied.
- Line 11 – `a2`, applied; `d`, *unknown* (never defined).
- Line 12 – `b2`, defining.
- Line 15 – `bletch`, defining; `b3`, defining; `boolean`, applied; `c`, defining; `real`, applied; `integer`, applied.
- Line 17 – `blerk`, defining.
- Line 19 – `a3`, defining; `false`, applied.
- Line 21 – `b3`, applied; `a3`, applied.
- Line 25 – `blerk`, applied.
- Line 26 – `b3`, applied.
- Line 27 – `bletch` applied; `trunc` applied; `c`, applied.
- Line 29 – `bletch` applied.
- Line 33 – `b1`, applied.
- Line 34 – `bar`, applied; `b1`, applied; `a1`, applied.
- Line 35 – `b1`, applied; `bletch`, applied; `true`, applied; `false`, applied.
- Line 36 – `writeln`, applied; `b1`, applied.

2. 3. The same subscripts have been used as in the previous question:

Scope	Line(s)	Environment
Global	1-37	<i>predefined identifiers</i> ( <code>array</code> , <code>true</code> , etc.)
Program ( <code>foo</code> )	1-37	<code>a<sub>1</sub></code> , <code>b<sub>1</sub></code> , <code>bar</code> , <code>bletch</code> , <i>predefined identifiers</i>
Procedure ( <code>bar</code> )	7-13	<code>a<sub>2</sub></code> , <code>b<sub>2</sub></code> , <code>bar</code> , <code>bletch</code> , <i>predefined identifiers</i>
Function ( <code>bletch</code> )	15-30	<code>b<sub>3</sub></code> , <code>c</code> , <code>blerk</code> , <code>a<sub>1</sub></code> , <code>bar</code> , <code>bletch</code> , <i>predefined identifiers</i>
Procedure ( <code>blerk</code> )	17-22	<code>a<sub>3</sub></code> , <code>b<sub>3</sub></code> , <code>c</code> , <code>blerk</code> , <code>bar</code> , <code>bletch</code> , <i>predefined identifiers</i>
<i>Unknown</i>		<code>d</code>

## Practical

Not attempted. Didn't even read the question. I'm going to bed.  $Z^{Z^{Z^{\ddots}}}$