

7.1.d

$$y_1 = a + b$$

$$y_2 = -y_1$$

$$y_3 = c + d$$

$$y_4 = y_2 * y_3$$

$$y_5 = a + b$$

$$y_6 = y_5 + C$$

$$y_7 = y_4 + y_6$$

7.2.c

loop: if $i \leq 10$ goto next

goto label

next: $A[i] = 0$

goto loop

label ret

7.5

$P \mapsto$	$ \text{offset} = 0, $
$D_1 S$	
$D \mapsto D; D$	
$D \mapsto \text{id}; T$	$ \text{enter}(\text{id}, \text{lexeme}, T.\text{type}, \text{offset}); \text{offset} = \text{offset} + T.\text{width}; $
$T \mapsto \text{integer}$	$ T.\text{type} = \text{integer}; T.\text{width} = 4; $
$T \mapsto \text{real}$	$ T.\text{type} = \text{real}; T.\text{width} = 8; $
$T \mapsto \text{array}[\text{num}] \text{ of } T, T.\text{type} = \text{array}(\text{num}, \text{val}, T, \text{type});$	
	$T.\text{width} = \text{num}.\text{val} \times T.\text{width}; $
$T \mapsto \uparrow T,$	$ T.\text{type} = \text{pointer}(T, \text{type}); T.\text{width} = 4; $

图 7.5 计算被声明名字的类型和相对地址

$$P \rightarrow \{ P.i = D.i = 0 \} D; S$$
$$D \rightarrow \{D_1, z = D.z\} D_1 ; \{D_2, z = D_1.z\} D_2$$

$D \rightarrow id : T \{ \text{enter}(id, \text{lexeme}, T, \text{type}, D.i); D.i += T.\text{width} \}$

$T \rightarrow \text{integer} \{ T.\text{type} = \text{integer}; T.\text{width} = 4 \}$

$T \rightarrow \text{real} \quad \{T.\text{type} = \text{real}; T.\text{width} = 8\}$

$T \rightarrow \text{array}[\text{num}] \text{ of } T_i \{ T.\text{type} = \text{array}(\text{num. val}, T_i.\text{type});$

$$T.\text{width} = \text{num. val} \times T_1.\text{width}$$

$T \rightarrow \uparrow T, \{ T.type = \text{pointer}(T.type); T.width = 4; \}$