

Parameter-Passing Methods (cont'd)

- Exercise 5.1 (Sethi, pp. 198):

```
1.  int i, A[2]
2.  i <- 1
3.  Procedure foo (int x, int y)
4.      int temp
5.      temp <- x
6.      x <- y
7.      i <- 0
8.      y <- temp
9.  end
10. A[0] <- 0
11. A[1] <- 2
12. foo(i, A[i])
13. write i, A[0], A[1]
```

Parameter-Passing Methods (cont'd)

- The Outputs:

	i	A[0]	A[1]
(a) pass-by-value:	0	0	2
(b) pass-by-reference	0	0	1
(c) pass-by-value-result	2	0	1
(d) pass-by-name	0	1	2

Note that in pass-by-name, **i** in **foo** will not be re-named, since it is a global variable. You may write down the execution of the code step by step for each case.

- pass-by-value:** (foo) x=1, y=2, temp=1, x=2, i=0, y=1; (main) i=0, A[0]=0, A[1]=2
- pass-by-reference:** (foo) x=1, y=2, temp=1, x=2, i=0, y=1; (main) i=0, A[0]=0, A[1]=1
- pass-by-value-result:** (foo) x=1, y=2, temp=1, x=2, i=0, y=1; (main) i=2, A[0]=0, A[1]=1
- pass-by-name:** (foo) temp=1, x(i)=y(A[i]) → i=2, i=0, y(A[i])=temp → A[0]=1; (main) i=0, A[0]=1, A[1]=2