Chapter 8 Discussion

Chapter 8.1-8.3 and 8.5

(pp 383-408 and 417-425)

Parameter passing mechanisms

- Work in small groups
- Don't look at the text or your notes
- List as many parameter passing mechanisms as you can recall.
  - For each mechanism list a feature it enables or a benefit it supplies

Call by value

- The following E3 program passes parameters by value.
  ```
  ( (global x 5)
    (global y 2)
    (fun  f (x y) (local (temp x)
          (block (:= x y)(:= y temp)))))
  (f x y)
  ```
- At the end of the program what holds? choose 1
  - X has value 5
  - Y has value 5
  - Y has value 0

Call by reference

- The following E3 program passes parameters by reference

```
( (global x 5)
  (global y 2)
  (fun  f (a b) (local (temp x)
           (block(:= x y)(:= y temp)))))
  (f x y)
```

- At the end of the program what holds? choose 1
  - X has value 2
  - Y has value 2

Call by value-return

- The following E3 program passes parameters by value return

```
( (global x 5)
  (global y 9)
  (fun  f (a b c)
       (block(:= a 1) (:= b 2))) )
(:= y (f x x y))
```

- At the end of the program what holds? choose 1
  - X has value 1
  - Y has value 2
  - Y has value 9

In and Out parameters

- Work in small groups
- Don't look at the text or your notes
- What's the difference between In, out, CBV, and CBR?