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(define-macro (twice expr)
  (list 'begin expr expr))
```

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```
(define-macro (twice expr)
  (list 'begin expr expr)) > (twice (print 2))
```

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Evaluation procedure of a macro call expression:

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Evaluation procedure of a macro call expression:

• Evaluate the operator sub-expression, which evaluates to a macro

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Evaluation procedure of a macro call expression:

- Evaluate the operator sub-expression, which evaluates to a macro
- Call the macro procedure on the operand expressions without evaluating them first

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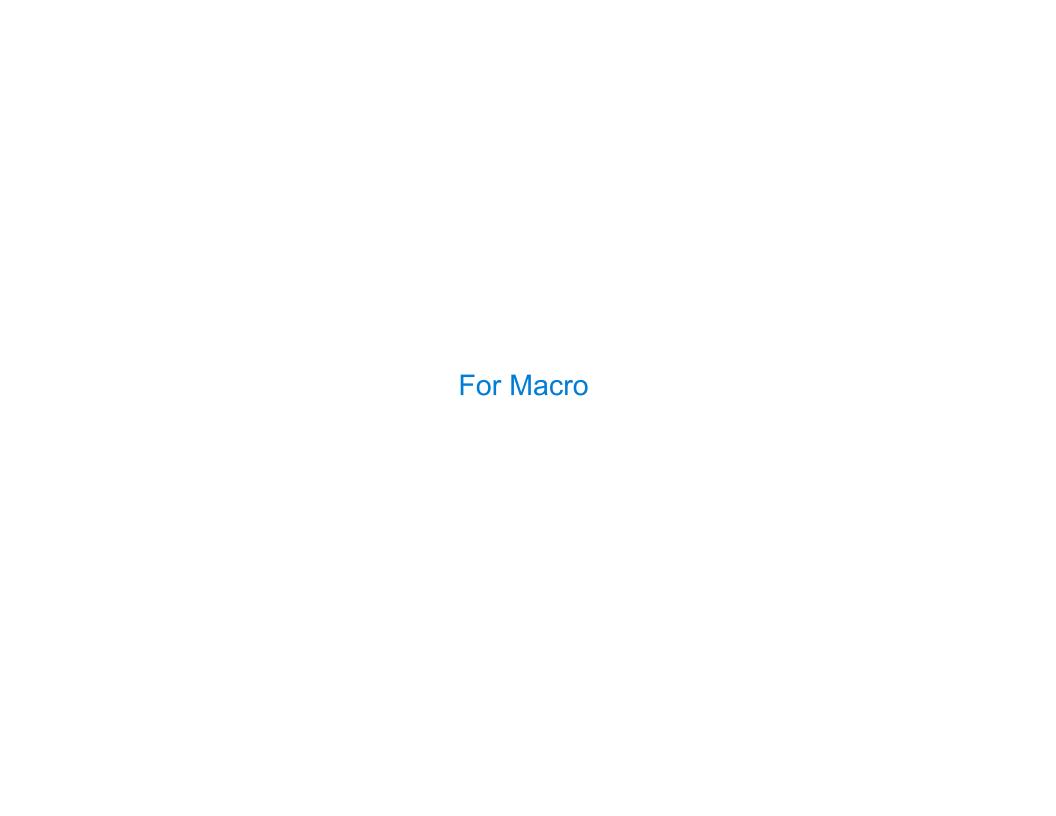
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(Demo)



```
scm> (for x (2 3 4 5) (* x x))
(4 9 16 25)
```

```
scm> (map (lambda (x) (* x x)) (2 3 4 5))
```

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scm> (for x (2 3 4 5) (* x x))
(4 9 16 25)
```

Define a macro that evaluates an expression for each value in a sequence

scm> (map (lambda (x) (\* x x)) (2 3 4 5))

scm> (for x (2 3 4 5) (\* x x))

(4 9 16 25)

(4 9 16 25)

Define a macro that evaluates an expression for each value in a sequence

(Demo)

# **Implementing Macros**

(Demo)