

First topic: Dynamic and Static scoping. Consider the following:

```
int x = 0;
int f() { return x; }
int g() { int x = 1; return f(); }
```

Dynamic scoping: g() returns 1. Static scoping: g() returns 0.

```
(define y 3)
(define (f x) (+ x y))
(let ((x 10)
      (y 20))
  (f 100))
```

Dynamic scoping: f returns 120. Static scoping: f returns 103.

Static scoping: look at environment of definition

Dynamic scoping: look at environment of execution

Review of coerce: if 5+a is called, and 5 doesn't know how to add an argument of type a, 5 does the following call:

a.coerce(self) #equivalent here to a.coerce(5)

So, in the a object, need a coerce method, which returns a new pair of things to try adding to get the result. The first return works because a+a already works. The second return works because a+5 already works.

```
def coerce(other)
  return [Section.new(other), self]
  #could also use return [self, other]

end
```

-Review: eval and bindings. Consider the following class:

```
class Foo
  def initialize
    @field = 43
  end
  def create_block
    Proc.new {}
  end
end
```

```
proc = Foo.new.create_block
```

```
#proc has with it the environment where the proc  
#was created, which is the environment inside  
#the Foo class at the point of creation
```

```
puts eval("self.class", proc.binding)  
#result is Foo. "self", in the provided  
#environment, refers to the Foo class
```

```
puts eval("@field", proc.binding)
```

```
#result is 43. "@field" in the provided  
environment is the field of Foo at the moment  
the proc was created.
```

-Grab bag of Ruby stuff

multiple arguments to a method:

```
def foo(a, b, *args)  
  args.each {..}  
end
```

parallel assignment: `i,j = j,i` #(swap with no temp)

Multiple return values:

```
a,b = foo
```

```
def foo  
  return 5,6  
end
```