```ruby
class JediSchool
  attr_reader :padawans, :parents, :grades

  #this 'mechanic' argument could be of any class
  def teach(jedi_master)
    jedi_master.teach_padawans(padawan)
  end

  #...
end
```

```ruby
class JediMaster
  def teach_padawans(padawans)
    padawans.each {|padawan| teach_padawan(padawan)}
  end

  def teach_padawan(padawan)
    #...
  end
end
```

```ruby
#Here you started with good intentions. Look, you don't
#care at all what kind of thing wants to teach your padawans,
#you just care that it can do teach_padawans
```

```ruby
class JediSchool
  attr_reader :padawans, :parents, :grades

  #this 'mechanic' argument could be of any class
  def teach(trainers)
    trainers.each {|trainer|
      case trainers
      when Yoda
        trainer.meditate(padawans)
      when MaceWindu
        trainer.be_a_badass(padawans)
      when Anakin
        trainer.be_a_murder(padawans)
        trainer.join_sidious(sith_lord)
      end
    }
  end

  #...
end
```

```ruby
class Yoda
  def meditate(padawans)
    #...
  end
end
```

```ruby
class MaceWindu
  def be_a_badass(padawans)
    #...
  end
end
```

```ruby
class Anakin
  def be_a_murder(padawans)
    #...
  end

  def join_sidious(sith_lord)
    #...
  end
end
```

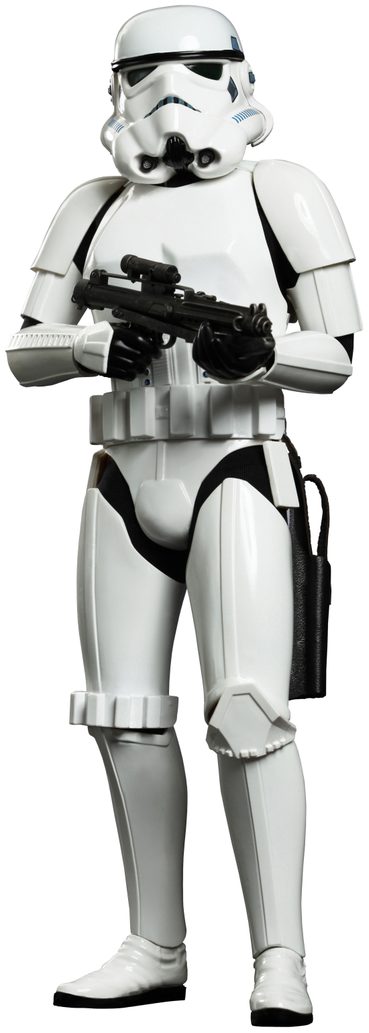
```ruby
# But then the plot thickens. Now there are multiple things
# doing different methods, so you just decide to have a list
# of conditionals accepting different types of objects, and
# then acting based off the the class.

# Sort of pretty, but not very reuseable. This means you have
# to modify the train method and the JediSchool class
# every time you want to add a method from a different
# object. :-/
```

```ruby
class JediSchool
  attr_reader :padawans, :parents, :grades, :trainers, :sith_lord
  attr_reader :graduates
  attr_reader :balls_shooting_tiny_lasers
  attr_reader :lightsabers
  #this 'mechanic' argument could be of any class
  def train(trainers)
    trainers.each { teach(jedi_school) }
  end

  #...
end
```

```ruby
class Yoda
  def teach(jedi_school)
    padawans = jedi_school.padawans
    meditate(padawans)
  end

  def meditate(padawans)
    #...
  end
end
```

```ruby
class MaceWindu
  def teach(jedi_school)
    padawans = jedi_school.padawans
    little_badasses = be_a_badass(padawans)
  end

  def be_a_badass(padawans)
    #...
  end

  private

  def force_lightning
    #...
  end

end
```

```ruby
class Anakin
  def teach(jedi_school)
    sith_lord = jedi_school.sith_lord
    be_a_murderer(padawans)
    join_sidious(sith_lord)
  end

  def be_a_murder(padawans)
    #...
  end

  def join_sidious(sith_lord)
    #...
  end
end
```



Sandi Session

acquiring behavior thru inheritance

6

~~Modules~~

(that's next session)

acquiring behavior thru inheritance 6

```ruby
# Here again you start with great intentions.

class StormTrooper
  attr_reader :height, :guns, :pistol_type

  def initialize(args)
    @height = args[:height]
    @guns = args[:guns]
    @pistol_type = args[:pistol_type]
  end

  def stuff
    { weapon_capacity: '2',
      grenade_capacity: '3',
      suit_color: 'white'
      pistol_type: pistol_type}
  end

  #...
end
```

```ruby
trooper = StormTrooper.new(
    height: '6ft'
    guns: 'duh',
    pistol_type: 'blaster' )

trooper.height # => '6ft'
trooper.guns   # => 'duh'
```

```
```
  Notes:
  classical refers to an object-oriented class, not
  meaning "archaic" ```

```
  Sandi Quote:
  "Inheritance is, at its core, a mechanism for automatic
  messages delegation. It defines a forwarding path for
  not-understood messages" ```
```

acquiring behavior thru inheritance 6

```ruby
# Now we need a different kind of trooper
# Oh we'll just add arguments and if-else conditionals

class StormTrooper
  attr_reader :style, :height, :guns, :pistol_type

  def initialize(args)
    @style = args[:style]
    @height = args[:height]
    @guns = args[:guns]
    @sights = args[:sights]
    @shield = args[:shield]
    @pistol_type = args[:pistol_type]
  end

  def with_him
    if style == :elite_trooper
      { weapon_capacity: '2',
        grenade_capacity: '3',
        suit_color: 'white'
        guns: guns,
        sights: sights,
        shield: shield }
    else
      { weapon_capacity: '2',
        grenade_capacity: '3',
        suit_color: 'white'
        pistol_type: pistol_type
        guns: guns }
    end
  end

  #...
end
```

```ruby
trooper = StormTrooper.new(
  style: :elite_trooper
  height: '6ft'
  guns: 'duh'
  sights: 'Sniper Sights woo!',
  shield: 'oh yeah we got those!'
   )

trooper.stuff

```
```
  Notes:
  classical refers to an object-oriented class, not
  meaning "archaic" ```

```
  Sandi Quote:
  "Inheritance is, at its core, a mechanism for automatic
  messages delegation. It defines a forwarding path for
  not-understood messages" ```
```

acquiring behavior thru inheritance 6
```

```ruby
# Inheritance Strikes Back

class StormTrooper
  attr_reader :style, :height, :guns

  def initialize(args)
    @style = args[:style]
    @height = args[:height]
    @guns = args[:guns]
    @sights = args[:sights]
    @shield = args[:shield]
    @pistol_type = args[:pistol_type]
  end

  def with_him
    if style == :sniper
      { weapon_capacity: '2',
        grenade_capacity: '3',
        suit_color: 'white'
        guns: guns,
        sights: sights,
        shield: shield }
    else
      { weapon_capacity: '2',
        grenade_capacity: '3',
        suit_color: 'white',
        pistol_type: pistol_type
        guns: guns }
    end
  end

  #...
end
```

```ruby
class Sniper < StormTrooper
  attr_reader :sights, :shield

  def initialize(args)
    @sights = args[:sights]
    @shield = args[:shield]
    super(args)
  end

  def with_him
    super.merge({
      sights: sights,
      shield: shield
      })

  end


end
```

```ruby
trooper = Sniper.new(
  height: '6ft'
  sights: 'Sniper Sights woo!',
  shield: 'oh yeah we got those!'
   )

trooper.stuff


```
  Notes:
  The problem here is that Bicyle still describes a lot of specific
  information about the trooper you original designed for:
  the regular blaster pistol trooper.
```
```

```ruby
class StormTrooper
  attr_reader :height, :guns, :primary_gun_type

  def initialize(args={})
    @height = args[:size]
    @guns = args[:guns] || false
    @primary_gun_type = args[:primary_gun_type] || default_gun_type
  end

  def default_gun_type
    raise NotImplementedError,
        "This #{self.class} cannot respond to:"
  end
end
```

```ruby
class BlasterTrooper < StormTrooper
  attr_reader :style, :height, :guns

  #...
  # def initialize(args)
    # @style = args[:style]
    # @height = args[:height]
    # @guns = args[:guns]
    # @sights = args[:sights]
    # @shield = args[:shield]
  #   @pistol_type = args[:pistol_type]
  # end

  def default_gun_type
    'blaster'
  end

  #...
end
```

```ruby
class Sniper < StormTrooper
  #...

  def default_gun_type
    'sniper rifle'
  end
end

blaster_trooper = BlasterTrooper.new(
  height: '6ft',
  pistol_type: 'blaster'
)

sniper_trooper = Sniper.new(
  height: '6ft'
  sights: 'Sniper Sights woo!',
  shield: 'oh yeah we got those!'
   )

blaster_trooper.pistol_type     # => 'blaster'
sniper_trooper.weapons_capacity # => '2'
```

acquiring behavior thru inheritance 6

```ruby
class StormTrooper
  attr_reader :height, :guns, :primary_gun_type

  def initialize(args={})
    @height = args[:size]
    @guns = args[:guns] || false
    @primary_gun_type = args[:primary_gun_type] || default_gun_type
  end

  def default_gun_type
    raise NotImplementedError,
        "This #{self.class} cannot respond to:"
  end
end
```

```ruby
class BlasterTrooper < StormTrooper
  attr_reader :style, :height, :guns

  def initialize(args)
    @pistol_type = args(:pistol_type)
    super(args)
  end

  #...
  def with_him
    super.merge({ pistol_type: pistol_flag })
  end

  def default_gun_type
    'blaster'
  end

  #...
end
```

```ruby
class Sniper < StormTrooper
  #...
  def initialize(args)
    @sights = args[:sights]
    @shield = args[:shield]
    super(args)
  end

  def with_him
    super.merge({ sights: sights, shield: shield })
  end

  def default_gun_type
    'sniper rifle'
  end
end
```

acquiring behavior thru inheritance 6

acquiring behavior thru inheritance 6