

# outside-in specs

using BDD & Selenium

carlos villela

@cv

pedro pimentel

@zukunftslick

ThoughtWorks

```
foo = Foo.new
```

foo.bar  
= ?

```
a = foo.bar  
print a
```

```
if a == 42
    print "ok"
else
    print "FAIL"
```



```
if a == 42
```

```
    print "ok"
```

```
else
```

```
    print "FAIL"
```

```
if a == 42
    print "ok"
else
    raise Fail
```

if a != 42

raise Fail

```
unless a == 42  
  raise Fail
```

raise Fail unless a == 42

```
def assert expr  
    raise Fail unless expr
```

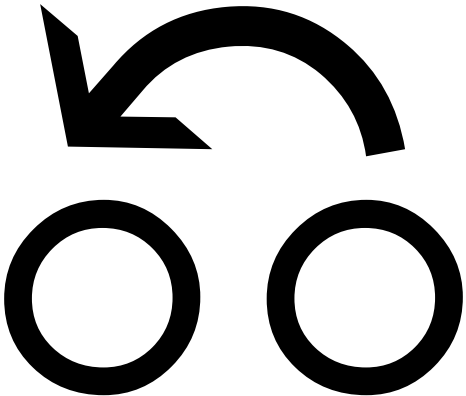
```
assert foo.bar == 42
```

class Asserts  
module Asserts



■ ■ ■

Test::Unit



```
assert foo.bar == 42
```

**ensure** foo.bar == 42

**enforce** foo.bar == 42

**verify** foo.bar == 42

**check** foo.bar == 42



foo.bar == 42

input  
processing  
output

input → \_\_\_\_\_

processing → \_\_\_\_\_

output → \_\_\_\_\_

input → given

processing → \_\_\_\_\_

output → \_\_\_\_\_

input → given

processing → when

output → \_\_\_\_\_

input → given  
processing → when  
output → then

given foo  
when bar  
then \_\_\_\_\_ == 42

open classes &  
literate programming



foo.bar.\_\_\_\_\_ == 42

foo.bar.assert == 42

foo.bar.ensure == 42

foo.bar.must == 42

foo.bar.is == 42

foo.bar.should == 42

foo.bar.should == 42

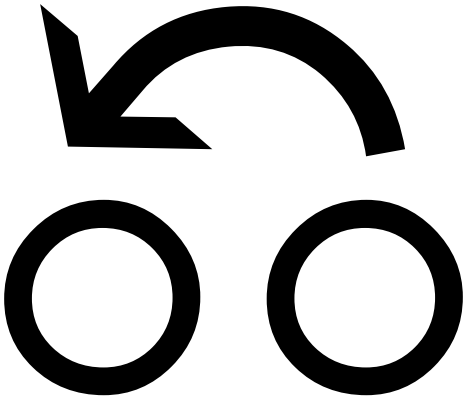
foo.bar.should be(42)



foo bar should be 42

■ ■ ■

RSpec



foo bar should be 42

should

MoSCoW

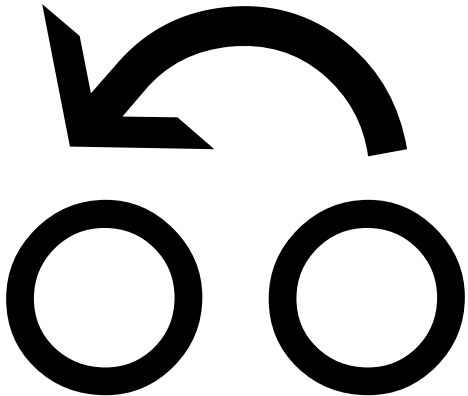
must



should

could

won't



petitio principii

“bar should be 42.”

“should it?”

“bar should be 42.”

“should it? *why?*”

why?



as a \_\_\_\_\_

I want \_\_\_\_\_

so that \_\_\_\_\_

as a \_\_\_\_\_

I want \_\_\_\_\_

so that \_\_\_\_\_

as a customer  
I want to buy cookies  
so that \_\_\_\_\_

as  $a \rightarrow$  given  
I want  $\rightarrow$  when  
so that  $\rightarrow$  then

given a customer  
when she buys cookies  
then \_\_\_\_\_

```
c = customer  
b = c.buy_cookies  
b.should _____
```

web

customer → browser



browser?

go to url

click

type

check

select

find

id

name

class

link text

xpath

google search

given a browser  
and I go to 'google.com'

when I find 'q'  
and type 'cookie'



and I find 'btnG'  
and click it

then the **title** should  
be 'cookie — Results'

go to 'google.com'

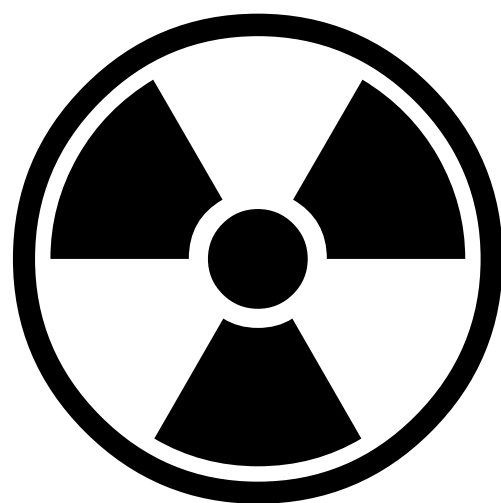
find 'q', type 'cookie'

find 'btnG', click it

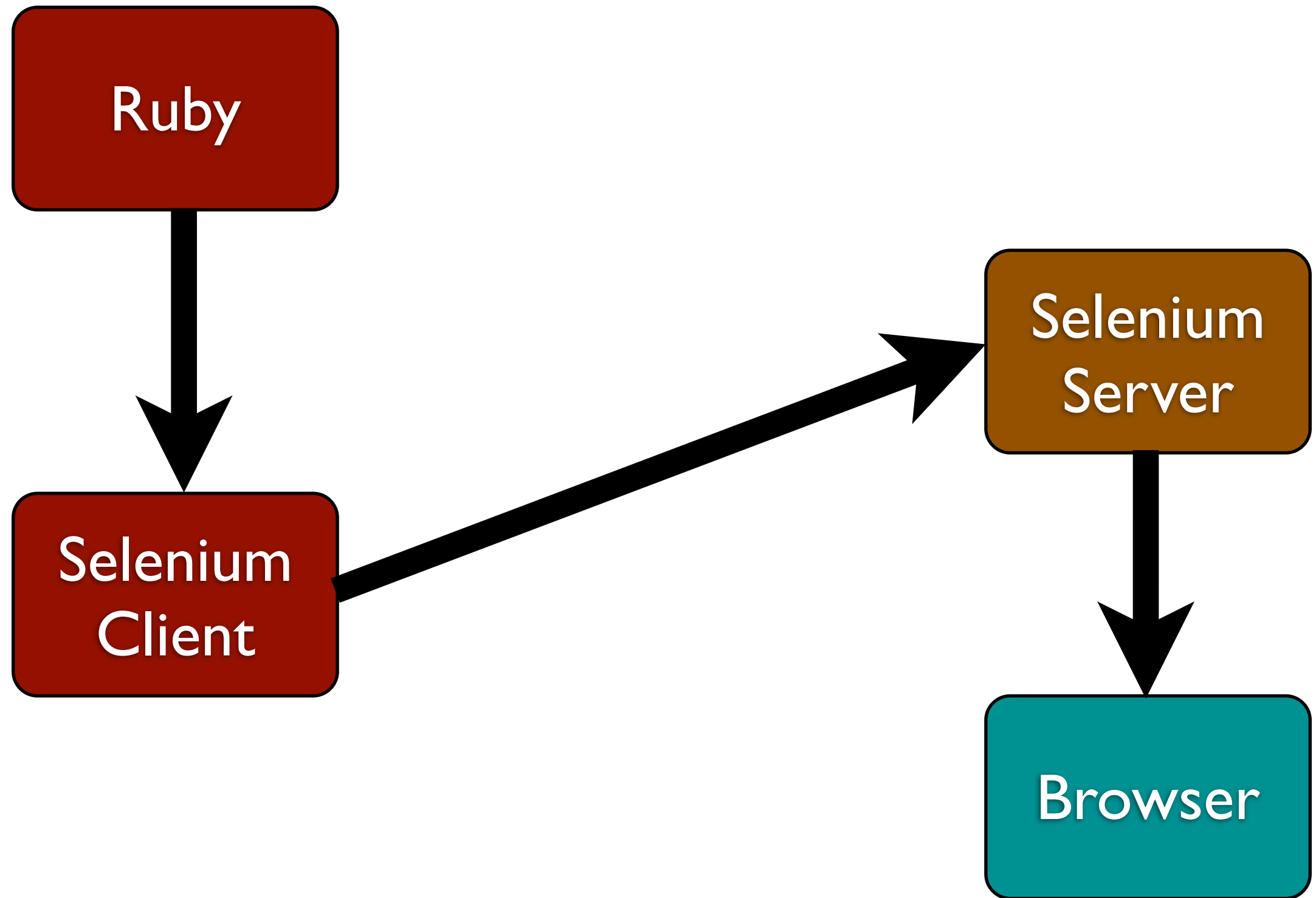
title should be 'Results'

```
go_to 'google.com'  
find('q').type 'cookie'  
find('btnG').click  
title.should be('Results')
```

```
go_to 'google.com'  
find('q').type 'cookie'  
find('btnG').click  
title.should be('Results')
```



# Selenium

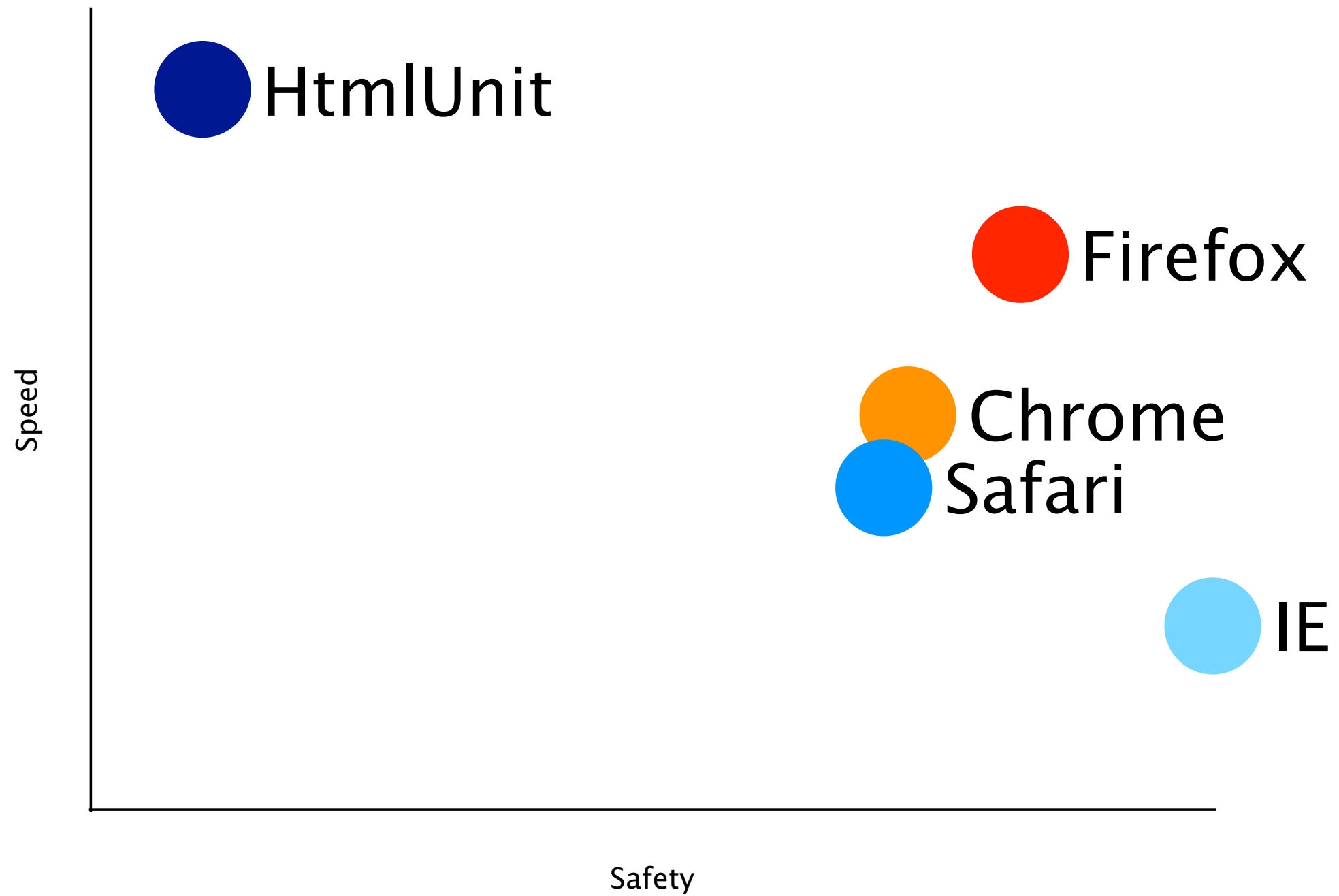




speed

safety

speed vs safety



evolution

**script**

```
go_to 'google.com'  
find('q').type 'cookie'  
find('btnG').click  
title.should be('Results')
```

10 GO TO 'Google'  
20 TYPE 'q', 'cookie'  
30 CLICK 'btnG'  
40 TITLE? 'Results'



procedural

■ ■ ■

objects

page objects

```
class MyApp::Page
  def menu
  def search_form
  def ...
```

```
module Google
```

```
  class Home < Page
```

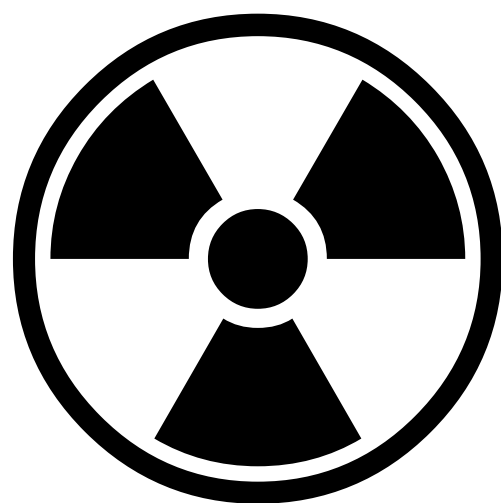
```
g = Google::Home.new  
r = g.search_for 'cookie'  
r.title.should be...
```

```
g = Google::Home.new  
r = g.search_for 'cookie'  
r.title.should be...
```



```
def search_for term
  find('q').type term
  find('btnG').click
  Results.new ...
end
```

```
class Results < ...  
  def initialize  
    title.should ...
```



test code

test code

code

**solution**

test code



understanding

?



@cv

@zukunftsalick