Section 9 Worksheet - Key
Ruby Practice

This handout was composed by Porter Jones. There are probably plenty of typos/incorrect solutions/etc for you to catch! Please email me with any issues, comments, or feedback at pbjones@cs.washington.edu. All thoughts are welcome :)

Practice with Arrays

```
1) def lengths xs
     xs.map {|x| x.length }
   end


2) def rev xs
     xs.inject([]) {|acc, x| acc.unshift x }
   end


3) def num_even xs
     xs.count {|x| x.even? }
   end


4) def all_equal? xs
     xs.all? {|x| x == xs[0]}
   end


5) def prime n
     (2..n).select {|x| (2..Math.sqrt(x).to_i).all? {|y| x % y != 0} }
   end


6) def trigger_sum xs, x
     sub = false
     xs.inject(0) do |acc, y|
       if sub or x == y
         sub = true acc - y
       else acc + y
       end
     end
   end
```

Practice with Hashes

```ruby
1) def keys_and_values h
     h.keys & h.values
   end

2) def flip_hash h
     res = {}
     h.each {|k, v| res[v] = k } res
   end

3) def intersect h1, h2
     h1.select {|k, v| h2[k] == v }
   end
```

Practice using blocks

```ruby
1) def our_map1 xs
     result = Array.new(xs.length)
     i = 0
     xs.each do |x|
       result[i] = yield x
       i += 1
     end
     result
   end

def our_map2 xs
   result = []
   xs.each {|x| result.push yield x }
   result
end

2) def our_select xs
     result = []
     xs.each {|x| result.push x if yield x }
     result
   end

3) def our_inject xs, init
     xs.each {|x| init = yield init, x }
     init
   end
```