LESSON 3

app.rb

```ruby
puts "Great!" if score > 90
3.times { |i| puts i }
(1..5).each { |n| p n }
```

Ruby

if · case · each

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RUBY PROGRAMMING

LESSON 3

Control Flow and Iterators

if, unless, modifiers, case/when, while, times, each and ranges

if, elsif, unless

grade.rb

```ruby
grade = if score >= 90
          "A"
        elsif score >= 75
          "B"
        else
          "C"
        end

unless passed
  puts "Try again"
end
```

- if, elsif and else work as you expect, and end closes the block. unless is the opposite of ...
- In Ruby, if is an expression, so it returns a value you can assign.

01

Statement Modifiers

modifiers.rb

```ruby
puts "Excellent!" if score > 95
return if list.empty?
puts "Login first" unless logged_in

user&.name           # nil-safe call
count ||= 0           # set only if nil
```

- Put if or unless at the end of a line for short conditions. It reads like plain English.
- The safe navigation operator, ampersand dot, calls a method only when the object is not nil.

02

case and when

case.rb

```ruby
label = case score
        when 90..100 then "excellent"
        when 75...90 then "good"
        when Integer then "keep going"
        end

case input
when /^\d+$/ then puts "a number"
when "quit", "exit" then exit
end
```

- case compares one value against several when clauses. A when can match a list, a range, a …
- Like if, case returns a value.

03

while, until and Ranges

loops.rb

```ruby
n = 1
n *= 2 while n < 100       # 128

(1..5).to_a      # [1, 2, 3, 4, 5]
(1...5).to_a     # [1, 2, 3, 4]
('a'..'e').to_a  # ["a", "b", "c", "d", "e"]
(1..10).step(3).to_a   # [1, 4, 7, 10]
```

- while repeats while true, until repeats until true. But Rubyists rarely write them.
- Ranges, written with two or three dots, describe a sequence. Two dots include the end; ...

04

Iterators: times, each, upto

iterators.rb

```ruby
3.times { |i| puts "round #{i}" }

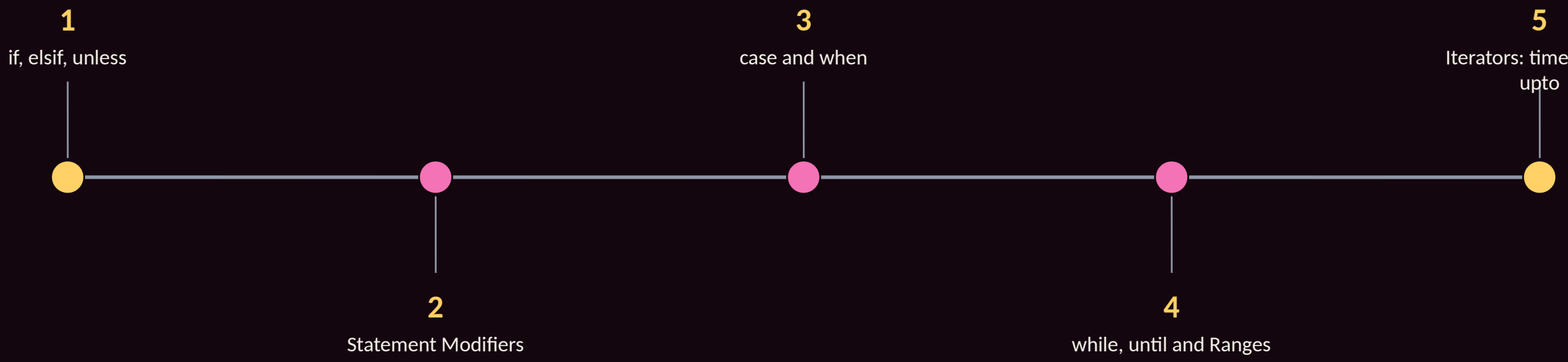
%w[Kabul Herat Balkh].each_with_index do |city, i|
  puts "#{i + 1}. #{city}"
end

1.upto(3) { |n| print n }        # 123
loop do
  break if done?
end
```

- Instead of for loops, Ruby uses iterator methods with blocks. A block is code between do ...
- each walks through a collection, times repeats, and each_with_index gives the position too.

05

Lesson Map


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if, elsif, unless
2
Statement Modifiers
3
case and when
4
while, until and Ranges
5
Iterators: times, each, upto

Sources and Further Reading

grade.rb

```ruby
grade = if score >= 90
          "A"
        elsif score >= 75
          "B"
        else
          "C"
        end

unless passed
  puts "Try again"
end
```

RUBY PROGRAMMING · 3

case.rb

```ruby
label = case score
        when 90..100 then "excellent"
        when 75...90 then "good"
        when Integer then "keep going"
        end

case input
when /^\d+$/ then puts "a number"
when "quit", "exit" then exit
end
```

Thank you for watching

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