LESSON 9

app.rb

```ruby
begin
  risky
rescue => e
  puts e.message
ensure
  cleanup
end
```

Ruby

Errors & Files

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RUBY PROGRAMMING

LESSON 9

Errors, Files and JSON

begin/rescue/ensure, raise, custom errors, File, CSV and JSON

begin, rescue, ensure

rescue.rb

```ruby
begin
  n = Integer(input)
  puts 100 / n
rescue ArgumentError
  puts "Not a number"
rescue ZeroDivisionError => e
  puts "Error: #{e.message}"
else
  puts "All good"
ensure
  puts "done"
end
```

- Wrap risky code in begin. rescue catches a specific error class, else runs if nothing …
- Inside a method, you can skip begin and put rescue directly in the method body.

01

raise and Custom Errors

bank.rb

```ruby
class InsufficientFunds < StandardError; end

def withdraw(amount)
  raise InsufficientFunds, "balance is #{@balance}" if amount > @balance
  @balance -= amount
end

attempts = 0
begin
  fetch_rates
rescue Timeout::Error
  retry if (attempts += 1) < 3
end
```

- raise throws an error. Make your own error classes by inheriting from StandardError, and …
- retry runs the begin block again, useful for flaky network calls, but always limit the …

02

Reading and Writing Files

files.rb

```ruby
text = File.read("notes.txt")
File.foreach("big.log") { |line| puts line if line.include?("ERROR") }

File.open("report.txt", "w") do |f|
  f.puts "Kabul 95"
  f.puts "Herat 88"
end
File.write("log.txt", "saved\n", mode: "a")
File.exist?("report.txt")       # true
```

- File dot read loads a whole file, and File dot readlines gives an array of lines. File dot …
- File dot open with a block closes the file automatically when the block ends.

03

CSV

csv_demo.rb

```ruby
require "csv"

rows = CSV.read("students.csv", headers: true)
avg = rows.sum { |r| r["score"].to_f } / rows.size

CSV.open("top.csv", "w") do |csv|
  csv << %w[name score]
  rows.select { |r| r["score"].to_i >= 90 }.each { |r| csv << [r["name"], r["score"]] }
end
```

- require csv loads Ruby's CSV library. With headers true, each row acts like a hash, so you …
- CSV dot open with w writes a new CSV file.

04

JSON

json_demo.rb

```ruby
require "json"

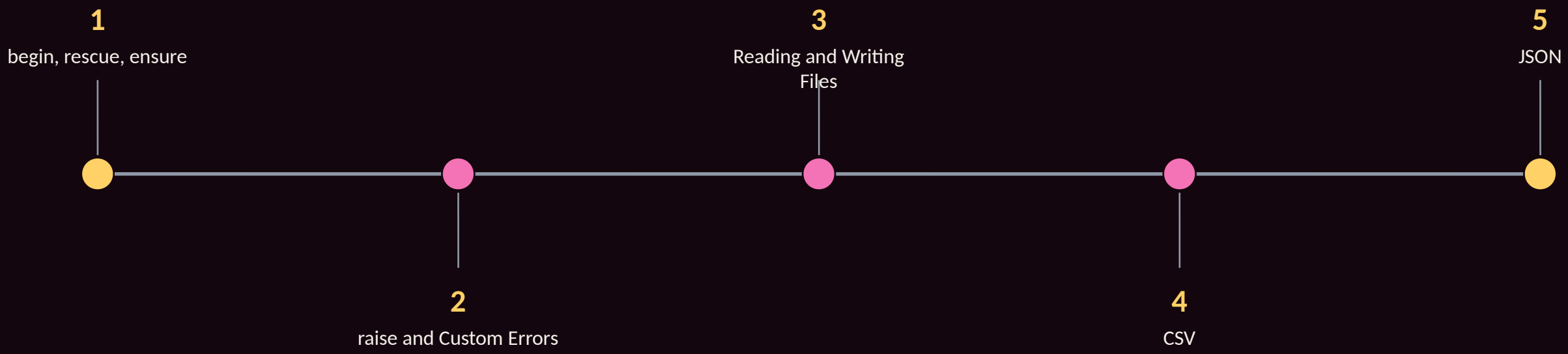
data = JSON.parse(File.read("config.json"), symbolize_names: true)
data[:city]                    # "Kabul"

report = { city: "Herat", students: 42 }
File.write("out.json", JSON.pretty_generate(report))
report.to_json                 # '{"city":"Herat","students":42}'
```

- require json adds JSON support. JSON dot parse turns text into hashes and arrays, and …
- Use symbolize_names true to get symbol keys, and pretty_generate for readable output.

05

Lesson Map


1
begin, rescue, ensure
2
raise and Custom Errors
3
Reading and Writing Files
4
CSV
5
JSON

Sources and Further Reading

rescue.rb

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ensure
  puts "done"
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RUBY PROGRAMMING · 9

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Thank you for watching

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