DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Ruby for Beginner

A Programmer's Best Friend

Speaker:
RIZQI NUR ASSYAUFI

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

RIZQI NUR ASSYAUFI

bandithijo.github.io

bandithijo bandithijo gmail.com

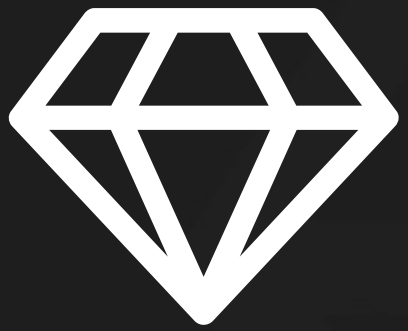
t.me

/GNULinuxIndonesia /VimID
/JekyllID /ArchLinuxID
/dotfiles_id /ruby_id

Ruby for Beginner

A Programmer's Best Friend

bandithijo



- **2017**
  Agung Setiawan
  IDRails.com
  Online Course
- **2019**
  VirtualSpirit Technology Malaysia
  Junior Backend Ruby on Rails Developer

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Introduction to Ruby

Ruby for Beginner
A Programmer's Best Friend

> Sedikit tentang Ruby

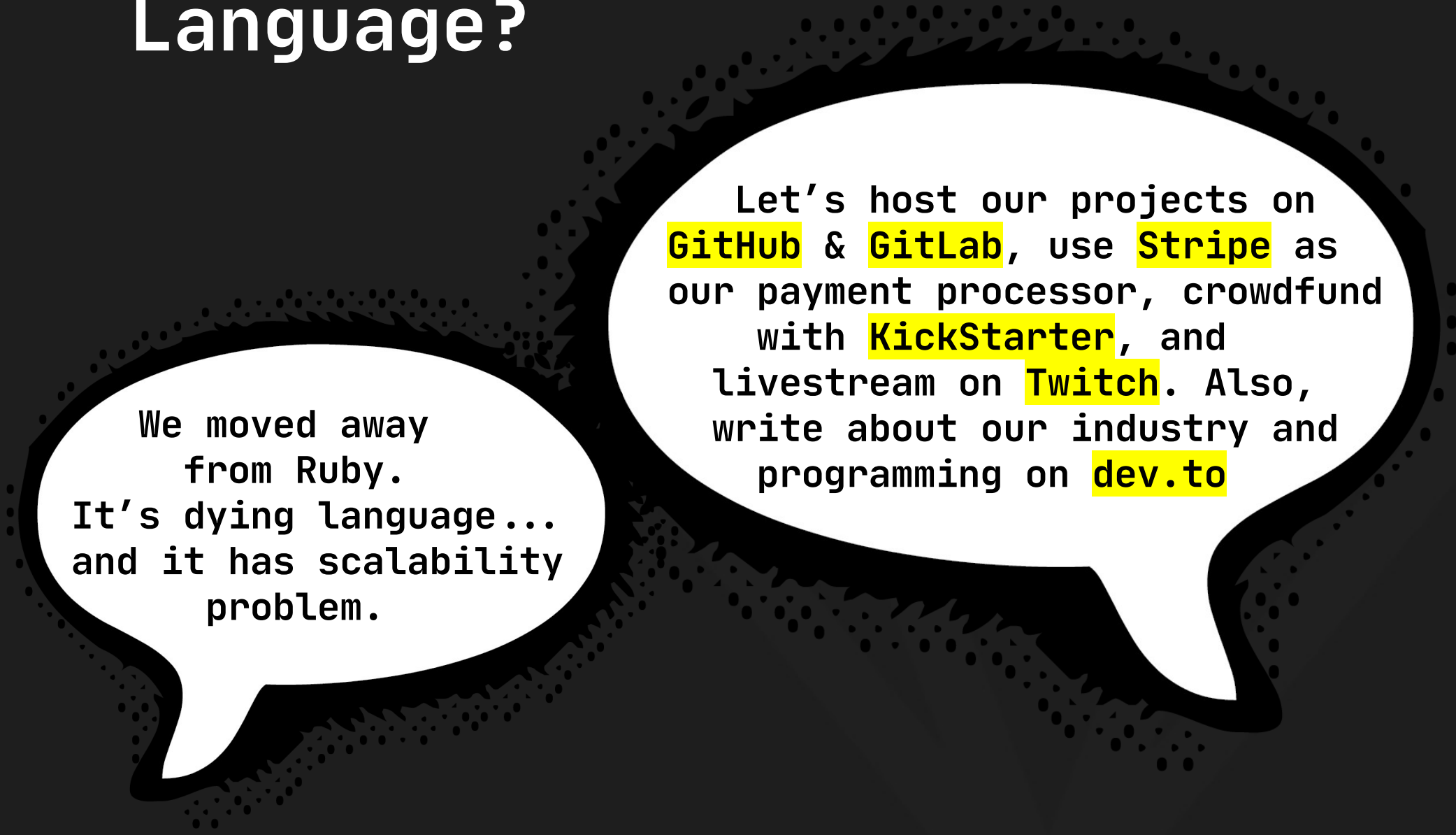
```
:creator   ⇒ Yukihiro “Matz” Matsumoto
:inspired ⇒ [ Perl, Smalltalk, Eiffel, Ada, Lisp ]
:public_release   ⇒ 1995

Matz.said(“trying to make Ruby natural, not simple”)

    _.append(“Ruby is simple in appearance,
              but is very complex inside,
              just like our human body.”)

:mass_acceptance ⇒ 2006 < DHH.create(
                          David Heinemeier Hansson,
                          Ruby on Rails,
                          Basecamp, 2003)
```

Source: About Ruby - http://www.ruby-lang.org/en/about/

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

> Is Ruby Dead Programming Language?



Source: Nate Hopkins @hopsoft - https://twitter.com/hopsoft/status/1169706322851328000

> Is Ruby Dead Programming Language?

```
success_stories("Ruby")
⇒ {
Simulations: [Nasa, Motorola, etc.]
3D_Modeling: [Google Scketchup, etc.]
Robotics   : [Morpha Project (Siemens), etc.]
Security   : [Metasploit Framework, etc.]
Web Apps   : [Basecamp, GitHub, GitLab, etc.]
etc.       : [...] }
```

Source: Ruby Lang Success Stories - http://www.ruby-lang.org/en/documentation/success-stories/

> Is Ruby Dead Programming Language?

```
Ruby.who("INDONESIA").value
```

```
⇒ [ Bukalapak, Cookpad Indonesia, Midtrans,
  Quipper, Vidio, HIJUP, Alodokter, Apisentris,
  BBM, BelanjaQu, Binary Academy, Dropsuite,
  Forstok, GO-JEK, Jualo, Jurnal, Karir.com,
  KlikDokter, KMK Online, Mekari, Mitrais,
  Peentar, Qontak, Sejasa.com, Sleekr,
  Sribulancer, Starqle, Virkea, Wego, WGS,
  etc... ]
```

Source: :id_ruby - Komunitas Ruby Indonesia - https://ruby.id

> Is Ruby Dead Programming Language?

```
Language::Ruby.is_dead?(
  "Ruby is alive and thinking about next 25 years"
  "dev.to/teaglebuilt/is-ruby-dead-17em"
  "hackernoon.com/the-state-of-ruby-2019-is-it-dying"
  "GitHub Blog - Upgrading GitHub to Ruby 2.7"
  "...")
⇒ false
```

> Is Ruby Dead Programming Language?

```
Framework::Rails.is_dead?(
  "similartech.com/technologies/ruby-on-rails"
  "similartech.com/categories/framework"
  "hackernoon.com/is-ruby-on-rails-dead-in-2019"
  "dockyard.com/blog/ruby-on-rails-in-2020"
  "Is Ruby on Rails dying: Myth or Reality?"
  "...")
⇒ false
```

> Is Ruby Dead Programming Language?

```
Language::Ruby.is_dead?(
  "Ruby is dead. (rubyisdead.science)")
⇒ false!

@jmcharnes.said("isrubydead.com")
⇒ NO
```

Just because Ruby is not popular anymore, it doesn't mean Ruby is dead, right?

> Kenapa Memilih Ruby?

```
Learning::Ruby.is_worth?(:me).value
⇒ {
a: "Membantu menyederhanakan kerumitan"
b: "Membantu menerjemahkan ide/solusi, menjadi sebuah
    script atau program"
c: "Sintaks yang mudah dipahami"
d: "Ketersediaan library (gem) yang lengkap"
e: "Ketersediaan dokumentasi API yang lengkap"
f: "Dukungan komunitas yang solid"
g: "Open source"
h: "Digunakan oleh Organisasi/Company Besar"
i: "..."
}
```

> Kenapa Memilih Ruby?

```
PracticalThing::Ruby.can_do(:you)
⟹ {
a: "Full-stack web development"
b: "Web scraping & crawling"
c: "Static website generators"
d: "Automation, Backup, & DevOps tools"
e: "Build your own servers"
f: "Parsing data, cleaning & filtering"
g: "API clients (like Twitter's or GitHub's)"
h: "Report generators (PDF, HTML, CSV, SpreadSheet)"
i: "Command-line tools"
j: "Games (Ruby2D, etc.)"
k: "Data Science"
l: "Machine Learning & AI"
}
```

Source: RubyGuide - Jesus Castello - https://www.rubyguides.com/2019/11/what-can-you-do-with-ruby/

> What's new on Ruby 2.7?

```
Ruby.whats_new?(2.7)
⇒ {
a: "Enumerable#tally"
b: "Numbered params for Blocks [Experimental]"
c: "Array#intersection"
d: "Enumerable#filter_map"
e: "Enumerator#produce"
f: "IRB gets a face lift"
g: "Ruby patern matching [Experimental]"
h: "10x performance ↑ for fiber & thread creation"
i: "Others changes, *go to source"
}
```

Source: RubyGuide - Jesus Castello - https://www.rubyguides.com/2019/12/ruby-2-7-new-features/

> What's new on Ruby 2.7?

Ruby NEVER STOPS Improving!

According to Matz…

This is the last 2.x version release.
Because next year,
we're getting Ruby 3.0!

Source: RubyGuide - Jesus Castello - https://www.rubyguides.com/2019/12/ruby-2-7-new-features/

> Tips Memasang Ruby for Dev

Groom your app's Ruby env. with Rbenv

Basic GitHub Checkout way:

```
$ cd
$ git clone https://github.com/rbenv/rbenv.git ~/.rbenv
$ echo 'export PATH="$HOME/.rbenv/bin:$PATH"' >> ~/.bashrc # ~/.zshrc
$ echo 'eval "$(rbenv init -)"' >> ~/.bashrc # ~/.zshrc
$ exec $SHELL

$ git clone https://github.com/rbenv/ruby-build.git ~/.rbenv/plugins/ruby-build
$ echo 'export PATH="$HOME/.rbenv/plugins/ruby-build/bin:$PATH"' >> ~/.bashrc
                                                                  # ~/.zshrc
$ exec $SHELL

$ rbenv install 2.7.1 ← ☁
$ rbenv global 2.7.1
$ ruby -v
```

```
/home/bandithijo
├── project_a      ← ruby 2.7.1
├── project_b      ← ruby 2.6.3
│   └── project_c  ← ruby 2.5.3
└── project_d      ← ruby 2.4.2
```

Source: Rbenv (GitHub) - https://github.com/rbenv/rbenv/blob/master/README.md

Source: GoRails.com - https://gorails.com/setup/ubuntu/20.04#ruby-rbenv

> Tips Memasang Ruby for Dev

Groom your app's Ruby env. with Rbenv

Verify that rbenv is properly set up:

```
$ curl -fsSL \
https://github.com/rbenv/rbenv-installer/raw/master/bin/rbenv-doctor | bash
```

```
https://github.com/rbenv/rbenv-installer/raw/master/bin/rbenv-doctor | bash
Checking for `rbenv' in PATH: /home/bandithijo/.rbenv/bin/rbenv
Checking for rbenv shims in PATH: OK
Checking `rbenv install' support: /home/bandithijo/.rbenv/plugins/ruby-build/
bin/rbenv-install (ruby-build 20200520-10-g157c719)
Counting installed Ruby versions: 8 versions
Checking RubyGems settings: OK
Auditing installed plugins: OK
```

```
/home/bandithijo
├── project_a      ← ruby 2.7.1
├── project_b      ← ruby 2.6.3
│   └── project_c  ← ruby 2.5.3
└── project_d      ← ruby 2.4.2
```

Source: Rbenv (GitHub) - https://github.com/rbenv/rbenv/blob/master/README.md

Source: GoRails.com - https://gorails.com/setup/ubuntu/20.04#ruby-rbenv

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Ruby Style Guide

Ruby for Beginner
A Programmer's Best Friend

> Ruby Style Guide

Adalah panduan menulis kode Ruby dengan “best practice” sehingga sesama programmer Ruby dapat menulis kode yang dapat dipelihara satu sama lain.

Indentation

Gunakan **2** spasi per level indentasi.

```ruby
# bad - four spaces
def some_method
    do_something
end

# good
def some_method
  do_something
end
```

Source: The Ruby Style Guide - https://rubystyle.guide/

> Ruby Style Guide

Should I Terminate Expression with ; ?

Don’t use ; to terminate statements and expressions.

```ruby
# bad
puts 'foobar'; # superfluous semicolon

# good
puts 'foobar'
```

Source: The Ruby Style Guide - https://rubystyle.guide/

> Ruby Style Guide

One Expression Per Line

```ruby
# bad
puts 'foo'; puts 'bar' # two expressions on the same line

# good
puts 'foo'
puts 'bar'

puts 'foo', 'bar' # this applies to puts in particular
```

Source: The Ruby Style Guide - https://rubystyle.guide/

> Ruby Style Guide

Spaces & Operators

Use spaces **around operators**, **after commas**, **colons** and **semicolons**

```
# bad
sum=1+2
a,b=1,2
class FooError<StandardError;end

# good
sum = 1 + 2
a, b = 1, 2
class FooError < StandardError; end
```

Source: The Ruby Style Guide - https://rubystyle.guide/

> Ruby Style Guide

Spaces & Operators (Exceptions)

Exponent operator

```
# bad
e = M * c ** 2

# good
e = M * c**2
```

Slash in rational literals

```
# bad
o_scale = 1 / 48r

# good
o_scale = 1/48r
```

Safe navigation operator

```
# bad
foo &. bar
foo &.bar
foo&. bar

# good
foo&.bar
```

Source: The Ruby Style Guide - https://rubystyle.guide/

> Ruby Style Guide

Spaces & Braces

No! spaces after `(`, `[` or before `]`, `)`
Use spaces around `{` and before `}`

```ruby
# bad
some( arg ).other
[ 1, 2, 3 ].each{|e| puts e}

# good
some(arg).other
[1, 2, 3].each { |e| puts e }
```

Source: The Ruby Style Guide - https://rubystyle.guide/

> Ruby Style Guide

Spaces & Braces (Exceptions)

Hash literals

```ruby
# good - space after { and before }
{ one: 1, two: 2 }

# good - no space after { and before }
{one: 1, two: 2}
```

String interpolation expressions

```ruby
# bad
"From: #{ user.first_name }, #{ user.last_name }"

# good
"From: #{user.first_name}, #{user.last_name}"
```

Source: The Ruby Style Guide - https://rubystyle.guide/

> Ruby Style Guide

CamelCase for Classes

Use CamelCase for **classes** and **modules**.
(Keep acronyms like HTTP, RFC, XML uppercase).

```ruby
# bad
class Someclass
  # some code
end

class Some_Class
  # some code
end

class XmlSomething
  # some code
end
```

```ruby
# good
class SomeClass
  # some code
end

class SomeXML
  # some code
end

class XMLSomething
  # some code
end
```

Source: The Ruby Style Guide - https://rubystyle.guide/

> Ruby Style Guide

Snake Case for Symbols, Methods, & Variables

Use snake_case for **symbols**, **methods** and **variables**.

```ruby
# bad
:'some symbol'
:SomeSymbol
:someSymbol

someVar = 5

def someMethod
  # some code
end

def SomeMethod
  # some code
end
```

```ruby
# good
:some_symbol

some_var = 5

def some_method
  # some code
end
```

Source: The Ruby Style Guide - https://rubystyle.guide/

More...,

The Ruby Style Guide

https://rubystyle.guide

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

IRB (Interactive Ruby Shell)

Ruby for Beginner

A Programmer's Best Friend

> Apa itu IRB?

IRB adalah kependekan dari **Interactive Ruby**.

Sebuah shell yang dapat kita gunakan untuk bermain-main dan bereksplorasi dengan Ruby dan langsung melihat hasilnya. Definisi ini diistilahkan dengan REPL (Read-Eval-Print-Loop).

Untuk menjalankan IRB, cukup tulis di terminal dengan perintah:

```
$ irb
irb(main):001:0> _
```

Ayo kita coba jalanakan operasi matematika!

```
irb(main):001:0> 1 + 2 * (3**4) / 5 - 6
⇒ 27
```

Source: RubyGuides - https://www.rubyguides.com/2018/12/what-is-a-repl-in-ruby/

> Customisasi IRB

Secara default, bentuk dari “prompt” IRB akan seperti ini

```
$ irb
irb(main):001:0> _
```

Secara pribadi, saya kurang suka melihat prompt yang terlalu panjang.
Kita bisa menyederhanakan dengan memanggil dengan cara berbeda.

```
$ irb --prompt simple
>> _
```

Untuk membuat prompt “simple” menjadi default yang digunakan, cukup tambahkan pada file ~/.irbc (buka dengan text editor).

```
IRB.conf[:PROMPT_MODE] = :SIMPLE
```

Nah, sekarang apabila teman-teman memanggil irb, maka otomatis akan menggunakan “simple” prompt.

Source: Rake Routes - https://www.rakeroutes.com/customize-your-irb/

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

.rb (dot rb file)

Ruby for Beginner

A Programmer's Best Friend

> .rb

Ruby memiliki file ekstensi .rb

Tujuannya agar Ruby interpreter dapat mengenali kalau file yang kita jalankan adalah file Ruby.

nama_file.rb

```
puts 'Helo, rubyist!'
puts 'Selamat belajar bahasa pemrograman Ruby.'
```

Untuk menjalankan file .rb

```
$ ruby nama_file.rb
```

```
Helo, rubyist!
Selamat belajar bahasa pemrograman Ruby.
```

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Variabel

Ruby for Beginner
A Programmer's Best Friend

> Apa itu Variabel?

Digunakan untuk memberikan nama & menyimpan nilai (value)

In Ruby, Variable is **just a label**.
...a name for something that you can use to reference this value in your Ruby programs.

Just like the name we give to real-world things.
When I say "apple" you know what I'm talking about.
I don't have to describe it to you.
That's what variables do!

```
nama_lengkap = 'Yukihiro Matsumoto'    ← String
tahun_lahir  = 1995                    ← Integer
penjajahan   = 3.5                     ← Float
bumi_datar   = false                   ← Boolean
kamar_kosong = nil                     ← NilClass
tim_dev      = ['budi', 1, true]       ← Array
kontak_dev   = { 'nama': 'budi' }      ← Hash
```

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/variables/

> Mengecek Class dari Variabel

Darimana kita tahu **variable** tertentu termasuk dalam Class apa?

Menggunakan method `.class()`

```
>> nama = 'Yukihiro Matsumoto'
>> nama.class
⇒ String

>> umur = 55
>> umur.class
⇒ Integer

>> tim_dev = ['Rizal', 'Reza', 'Rizqi']
>> tim_dev.class
⇒ Array
```

INFO!
Cara memanggil sebuah method dengan menggunakan tanda . (dot)

> Scope/Jangkauan Variabel?

Local variable

```
team_name   = "Elite Lokal"
```

Global variable (prefix: $)

```
$team_name  = "Elite Global"
```

Instance variable (prefix: @)

```
@fav_food   = "Indomie Instance"
```

Class variable (prefix: @@)

```
@@fav_drama = "Itaewon Class"
```

Constant variable (Huruf Besar)

```
PHI = 3.14
```

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/variables/

> Scope/Jangkauan Variabel?

The difference between them?
It's on their "**scope**".

A variable scope answers this question:

> "***From where can I access this variable?***"

This is only going to matter when you start learning about Object-Oriented Programming.

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/variables/
Source: RubyGuides - https://www.rubyguides.com/2019/03/ruby-scope-binding/

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Puts, Print, P Console

Ruby for Beginner
A Programmer's Best Friend

> Puts, Print, P

puts
Menampilkan isi dari object & **menambahkan** newline “**\n**” di akhir.

```
>> nama_lengkap = 'Yukihiro Matsumoto'
>> puts nama_lengkap
Yukihiro Matsumoto
⇒ nil
```

print
Menampilkan isi dari object **tanpa** newline “**\n**” di akhir.

```
>> print nama_lengkap
Yukihiro Matsumoto⇒ nil
```

p
Menampilkan isi dari object & mengembalikan nilai dari object tsb.

```
>> p nama_lengkap
"Yukihiro Matsumoto"
⇒ "Yukihiro Matsumoto"
```

Source: RubyGuides - https://www.rubyguides.com/2018/10/puts-vs-print/

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Working with String (a)

Ruby for Beginner
A Programmer's Best Friend

.Working with String (a)

> String Concatenation
> String Interpolation
> Mengecek Method pada Class
> String Method yang Biasa Digunakan
> Escaping Character

> String Concatenation

Combining multiple string

a. Menggunakan operator +

```
>> nama_depan    = 'Yukihiro'
>> nama_belakang = 'Matsumoto'
>> nama_lengkap  = nama_depan + nama_belakang

>> nama_lengkap
"YukihiroMatsumoto"

>> puts nama_depan + ' ' + nama_belakang
"Yukihiro Matsumoto"

>> puts 'Yukihiro' + ' ' + 'Matsumoto'
"Yukihiro Matsumoto"
```

Source: RubyGuides - https://www.rubyguides.com/2019/07/ruby-string-concatenation/

> String Concatenation

Combining multiple string

b. Menggunakan operator `+=`

```
>> nama = ''

>> nama += 'Yukihiro'
>> nama += ' '
>> nama += 'Matsumoto'

>> puts nama
"Yukihiro Matsumoto"
```

Source: RubyGuides - https://www.rubyguides.com/2019/07/ruby-string-concatenation/

> String Concatenation

Combining multiple string

c. Menggunakan `.concat()` method

```
>> nama = ''

>> nama.concat('Yukihiro')
>> nama.concat(' ')
>> nama.concat('Matsumoto')

>> puts nama
"Yukihiro Matsumoto"
```

Source: RubyGuides - https://www.rubyguides.com/2019/07/ruby-string-concatenation/

> String Concatenation

Combining multiple string

d. Menggunakan operator << (alias dari concat() method)

```
>> nama = ''

>> nama << 'Yukihiro'
>> nama << ' '
>> nama << 'Matsumoto'

>> puts nama
"Yukihiro Matsumoto"

>> puts nama << 'Yukihiro' << ' ' << 'Matsumoto'
"Yukihiro Matsumoto"
```

```
>> 'berat badan = ' << 70
# TypeError: no implicit conversion of Integer into String
```

Source: RubyGuides - https://www.rubyguides.com/2019/07/ruby-string-concatenation/

> String Concatenation

Combining multiple string

d. Menggunakan operator `<<` (alias dari concat() method)

Problem:

```
>> 'berat badan = ' << 70
⇒ "berat badan = F"
```

Solusi:

```
>> 'tinggi badan = ' << 70.to_s
⇒ "tinggi badan = 70"
```

Menggunakan **to_s** method untuk mengkonversi Integer ke String.

Source: RubyGuides - https://www.rubyguides.com/2019/07/ruby-string-concatenation/
Source: RubyGuides - https://www.rubyguides.com/2018/09/ruby-conversion-methods/

> String Concatenation

Combining multiple string

e. Menggunakan `.prepend()` method (kebalikan dari concat)

```
>> nama = ''

>> nama.prepend('Yukihiro')
>> nama.prepend(' ')
>> nama.prepend('Matsumoto')

>> puts nama
"Matsumoto Yukihiro"
```

If you're thinking there is an **append** method,
well there isn't for String.
append method only for arrays.

Source: RubyGuides - https://www.rubyguides.com/2019/07/ruby-string-concatenation/

> String Interpolation

Interpolation or merging of variables into strings is a powerful technique. It allows you to "templatize" a string.

a. Menggunakan "#{ }"

```
>> nama_depan    = 'Yukihiro'
>> nama_belakang = 'Matsumoto'
>> umur_sekarang = 55

>> puts "Nama: #{nama_depan} #{nama_belakang}. Umur: #{umur}"
"Nama: Yukihiro Matsumoto. Umur: 55"
```

! Syarat: String harus menggunakan tanda petik ganda ("...")

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/variables/

> Mengecek Method pada Class

Darimana kita tahu **method** apa yang tersedia dari sebuah Class?

Menggunakan `.methods()` method

```
>> nama = 'Yukihiro Matsumoto'
>> nama.class
⇒ String

>> nama.methods
⇒[ :unicode_normalize, :unicode_normalize!, :ascii_only?, :unpack,
:unpack1, :to_r, :shellsplit, :encode, :encode!, :shellescape, :
%, :include?, :*, :+, :pretty_print, ..., ..., ... ]
```

Berapa banyak jumlah method yang tersedia? (misal: String)

```
>> nama.class
⇒ String

>> nama.methods.count
⇒ 192
```

> String Method yang Biasa Digunakan

.upcase()

```
>> nama = 'Yukihiro Matsumoto'
>> nama.upcase
⇒ "YUKIHIRO MATSUMOTO"
```

.downcase()

```
>> nama = 'Yukihiro Matsumoto'
>> nama.downcase
⇒ "yukihiro matsumoto"
```

.capitalize()

```
>> nama = 'yukihiro matsumoto'
>> nama.capitalize
⇒ "Yukihiro matsumoto"
```

.reverse()

```
>> nama = 'yukihiro matsumoto'
>> nama.reverse
⇒ "otomustam orihikuy"
```

.length()

```
>> nama = 'Yukihiro Matsumoto'
>> nama.length
⇒ 18
```

More: Ruby-Doc - https://ruby-doc.org/core-2.7.0/String.html

> String Method yang Biasa Digunakan

.sub()

```
>> nama = 'Yukihiro Matz'
>> nama.sub('Matz', 'Akita')
⇒ "Yukihiro Akita"
```

.gsub()

```
>> nama = 'Budi Budi Bayu'
>> nama.gsub('Budi', 'Bayu')
⇒ "Bayu Bayu Bayu"
```

.strip()

```
>> nama = '     matsumoto    '
>> nama.strip
⇒ "matsumoto"
```

.split()

```
>> nama = 'Budi Budi Bayu'
>> nama.split(' ')
⇒ ["Budi", "Budi", "Bayu"]
```

dan masih banyak lagi...

More: Ruby-Doc - https://ruby-doc.org/core-2.7.0/String.html

> Escaping Character

backslashed notation

Bagaimana cara melakukan escaping character pada String?

```
>> 'malam jum'at'
SyntaxError: unexpected local variable or method...

>> 'malam jum\'at'
"malam jum'at"
```

Alternatif gunakan **double** quote untuk escaping **single** quote:

```
>> "malam jum'at"
"malam jum'at"
```

Contoh-contoh escaping character

```
\' : single quote
\" : double quote
\\ : backslash
\n : new line
\r : carriage return
```

```
\t : tab
\b : backspace
\f : form feed
\v : vertical tab
est.
```

More: AppSignal - https://blog.appsignal.com/2016/12/21/ruby-magic-escaping-in-ruby.html

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Working with String (b)

Ruby for Beginner
A Programmer's Best Friend

.Working with String (b)

> Get Input from User (Console)

> Get Input from User (Console)

Ruby use **gets()** method to get the user input (as a string).

.gets

```
>> print 'Nama kamu siapa? '; nama = gets
Yukihiro↵
>> nama
⇒ "Yukihiro\n"
```

"\n" didapatkan saat kita menekan tombol enter.

Bagaimana cara menghilangkannya?

Gunakan **String#chomp** method.

.gets.chomp

```
>> puts "Nama kamu siapa? "; nama = gets.chomp
Yukihiro↵
>> nama
⇒ "Yukihiro"
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.1/IO.html

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Working with Number

Ruby for Beginner
A Programmer's Best Friend

.Working with Number

> Arithmetic Operation
> Order Arithmetic Operation
> Loop with Times
> Upto & Downto

> Arithmetic Operation

```
>> 5 + 5
=> 10

>> 10 * 2
=> 20

>> 2**3
=> 8

>> 10 % 2
=> 0

>> 10.even?
=> true

>> 4.odd?
=> false
```

```
>> 10 / 2.0
=> 5.0

>> 9.0 / 3
=> 3.0
```

_ delimiter

```
>> 10_000 + 500
=> 10500

>> 2_000_000 / 20
=> 100000

>> 10_0 / 2
=> 50
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.1/IO.html

> Order Arithmetic Operation

Perhatikan urutan dari pengerjaan operator.

Gunakan jembatan “**PEMDAS**” untuk mengingatnya.

Parenthesis	()
Exponential	**
Multiplication	*
Division	/
Addition	+
Substraction	-

```
>> 1 + 2 * 3**4 / (5 - 6)
⇒ -161
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.1/IO.html

> Loop with times

Salah satu method yang mudah untuk melakukan looping / perulangan terhadap angka.

.times

```
?> 3.times do
?>   puts 'DILo Balikpapan'
>> end

DILo Balikpapan
DILo Balikpapan
DILo Balikpapan
```

.times (one line)

```
>> 3.times { puts 'DILo Bppn' }

DILo Bppn
DILo Bppn
DILo Bppn
```

```
?> 2.times do |n|
?>   puts "Dilo ke-#{n}"
>> end

DILo ke-0
DILo ke-1
```

```
>> 2.times { |n| puts n }

0
1
```

> Upto & Downto

Salah satu method yang mudah untuk melakukan looping / perulangan terhadap angka dengan rentang tertentu.

.upto().each

```
?> 1.upto(3).each do
?>   puts 'DILo Bppn'
>> end

DILo Bppn
DILo Bppn
DILo Bppn
```

```
?> 1.upto(3) do |n|
?>   puts n
>> end

1
2
3
```

.downto().each

```
?> 3.downto(1).each do
?>   puts 'DILo Bppn'
>> end

DILo Bppn
DILo Bppn
DILo Bppn
```

```
?> 3.downto(1).each do |n|
?>   puts n
>> end

3
2
1
```

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Comparison & Logical Operators

Ruby for Beginner
A Programmer's Best Friend

.Comparison & Logical Operators

> Comparison Operators
> Logical Operators

> Comparison Operators

Membandingkan 2 (atau lebih) objek.
Dan membuat keputusan berdasarkan hasil perbandingan.

Operator	Deskripsi
<	Kurang dari
<=	Kurang dari sama dengan
>	Lebih dari
>=	Lebih dari sama dengan
==	Sama dengan
!=	Tidak sama dengan

All these operators are methods,
and they **return a boolean value.**

Source: RubyGuides - https://www.rubyguides.com/2018/07/ruby-operators/

> Logical Operators

Membandingkan 2 (atau lebih) condition.
Dan membuat keputusan berdasarkan hasil perbandingan.

A	B	A && B	A || B
T	T	T	T
T	F	F	T
F	T	F	T
F	F	F	F

```
if (Condition A) && (Condition B)
  # statement
end

if (Condition A) || (Condition B)
  # statement
end
```

Source: RubyGuides - https://www.rubyguides.com/2018/07/ruby-operators/

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Branching /Condition

Ruby for Beginner
A Programmer's Best Friend

.Branching /Condition

> If
> Unless
> If/Unless for One Statement
> If, Else
> If, Elsif, Else
> If with Multiple Condition
> If Nested (bertingkat)
> Case
> Ternary Operator

> if Statements

```ruby
if condition
  statement 1
  statement 2
end
```

```ruby
if condition then statement 1; statement 2 end
```

```ruby
if condition; statement 1; statement 2 end
```

Ruby executes code if the condition is **true**.
True is interpreted as **anything** that **isn't false or nil.**

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/ruby-if-else/

> unless Statements

```ruby
if !condition      # ← negasi dari condition
  statement
end
```

Sama dengan,

```ruby
unless condition
  statement
end
```

```ruby
unless condition then statement end
```

```ruby
unless condition; statement end
```

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/ruby-if-else/

> if/unless (reversed form)

if Statement (reversed)

```
statement if condition
```

```
statement 1; statement 2; statement n; if condition
```

unless Statement (reversed)

```
statement unless condition
```

```
statement 1; statement 2; statement n; unless condition
```

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/ruby-if-else/

> if else

```
if condition
  statement 1
  statement 2
else
  statement 3
end
```

If the **condition isn't true**,
code specified in the **else clause is executed.**

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/ruby-if-else/

> if elsif else

```
if condition A
  statement 1
  statement 2
elsif condition B
  statement 3
elsif condition C
  statement 4
elsif condition X
  statement n
else
  statement 5
end
```

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/ruby-if-else/

> if with Multiple Condition

```ruby
if condition A && condition B
  statement 1
  statement 2
else
  statement 3
end
```

```ruby
if condition A && condition B
  statement 1
  statement 2
elsif condition C || condition D
  statement 3
elsif condition E && (condition F || condition G)
  statement 4
else
  statement 5
end
```

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/ruby-if-else/

> if Nested (bertingkat)

```
if condition A
  if condition A.1
    statement 1
  end

  statement 2
elsif condition B
  statement 3
else
  statement 4
end
```

Source: RubyGuides - https://www.rubyguides.com/ruby-tutorial/ruby-if-else/

> case

```ruby
if variable == 'A'
  statement 1
elsif variable == 'B'
  statement 2
elsif variable == 'C'
  statement 3
else
  statement 4
end
```

```ruby
case variable
when 'A'
  statement 1
when 'B'
  statement 2
when 'C'
  statement 3
else
  statement 4
end
```

```ruby
if var == 'A' || var == 'a'
  statement 1
elsif var == 'B'
  statement 3
else
  statement 4
end
```

```ruby
case var
when 'A', 'a'
  statement 2
when 'B'
  statement 3
else
  statement 4
end
```

Source: RubyGuides - https://www.rubyguides.com/2015/10/ruby-case/

> ternary Operator

```
if condition
  statement 1
else
  statement 2
end
```

```
condition ? statement 1 : statement 2
```

ternary operator general syntax:

```
condition ? true : false
```

example,

```
tinggi = 150
tinggi > 170 ? 'tinggi' : 'pendek'
⇒ 'pendek'
```

```
tinggi < 170 ? (tinggi + 20) : tinggi
⇒ 180
```

Source: RubyGuides - https://www.rubyguides.com/2019/10/ruby-ternary-operator/

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Collection

Ruby for Beginner
A Programmer's Best Friend

.Collection

> Array
> Array Modification
> Hash
> Hash Modification

> Array

An array is a built-in Ruby class, **which holds a list of zero or more items**, and includes methods that help you easily add, access, and loop over all these items.

This is helpful, because if arrays didn't exist you would have to use many variables.

```
a = 1
b = 2
c = 3
```

But instead you can do:

```
numbers = [1, 2, 3]
```

The best part? You can put everything inside array!

```
numbers = [1, 'Dua', num_tiga, true, :enam, [7, 'Depalan', false]]
```

Source: RubyGuides - https://www.rubyguides.com/2015/05/ruby-arrays/

> Array

You can **access the elements** inside an array using their **index**, which **starts at 0**.

```
ELEMENT    1    2    3      4      5      6
numbers = [1, 'Dua', 3, 'Empat', 5, 'Enam']
INDEX      0    1    2      3      4      5
```

```
numbers[0]
⇒ 1
numbers[1]
⇒ 'Dua'
numbers[5]
⇒ 'Enam'
numbers[-1]
⇒ 'Enam'
```

```
numbers.first
⇒ 1



numbers.last
⇒ 'Enam'
```

Source: RubyGuides - https://www.rubyguides.com/2015/05/ruby-arrays/

> Array

Bagaimana cara membuat array kosong/baru?

```
numbers = []

numbers
⇒ []
```

```
numbers = Array.new

numbers
⇒ []
```

Source: RubyGuides - https://www.rubyguides.com/2015/05/ruby-arrays/

> Array

Bagaimana cara memasukkan nilai ke dalam array?

```
numbers = []
numbers[0] = 1

numbers
⇒ [1]

numbers[1] = 'Dua'

numbers
⇒ [1, 'Dua']
```

Apa yang terjadi jika kita melompati index saat menginput array?

```
numbers[3] = 3

numbers
⇒ [1, 'Dua', nil, 3]
```

Source: RubyGuides - https://www.rubyguides.com/2015/05/ruby-arrays/

> Array

Bagaimana cara mengetahui panjang array?

```
numbers = [1, 'Dua', 3, 'Empat', 5, 'Enam', 5]

numbers.length
⇒ 6
```

Bagaimana cara mengetahui jumlah element di dalam array?

```
numbers = [1, 'Dua', 3, 'Empat', 5, 'Enam', 5]

numbers.count
⇒ 6

numbers.count(5)
⇒ 2

numbers.count { |num| num.class == Integer }
⇒ 4
```

Source: RubyGuides - https://www.rubyguides.com/2015/05/ruby-arrays/

> Array Modification (Delete)

.delete(obj)

Deletes all items that are equal to **obj**.

```
numbers = [1, 'Dua', 3, 'Empat', 5, 5, 5, 'Enam', 'Enam']

numbers.delete(5)           # ⇒ 5

numbers
⇒ [1, 'Dua', 3, 'Empat', 'Enam', 'Enam']

numbers.delete('Enam’)      # ⇒ "Enam"

numbers
⇒ [1, 'Dua', 3, 'Empat']
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Array.html#method-i-delete

> Array Modification (Delete)

.delete_at(index)

Deletes the element at the **specified index**,
returning that element, or nil if the index is out of range.

```
numbers = [1, 'Dua', 3, 'Empat', 5, 'Enam']
           0    1    2     3      4      5
numbers.delete_at(1)           # ⇒ "Dua"

numbers
⇒ [1, 3, 'Empat', 5, 'Enam']
    0  1      2      3     4
numbers.delete_at(6)           # ⇒ nil

numbers
⇒ [1, 3, 'Empat', 5, 'Enam']
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Array.html#method-i-delete_at

> Array Modification (Delete)

.delete_if { |item| block }

Deletes every element of self for which block evaluates to true.

The array is changed instantly every time the block is called, not after the iteration is over.

```
nilai_siswa = [60, 98, 46, 76, 89, 48, 90, 75, 55]

nilai_siswa.delete_if { |nilai| nilai > 55 }
⇒ [60, 98, 76, 89, 90, 75]

nilai_siswa.delete_if do |nilai|
  nilai > 55
end
⇒ [60, 98, 76, 89, 90, 75]
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Array.html#method-i-delete_if

> Array Modification (Join)

.join(separator=$,)

Returns a string created by **converting each element of the array to a string, separated by the given separator.**

If the separator is nil, it uses current $,.
If both the separator and $, are nil, it uses an empty string.

```
nama_siswa  = ['Bora', 'Bimo', 'Bayu', 'Bela', 'Buti']

nama_siswa.join('-')
⇒ "Bora-Bimo-Bayu-Bela-Buti"

nama_siswa.join
⇒ "BoraBimoBayuBelaButi"

siswa = ['DokSun', 18, true, 159.5]

siswa.join
⇒ "DokSun18true159.5"
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Array.html#method-i-join

> Array Modification (Push)

.push(obj) **.append(obj)**

Append — Pushes the given object(s) on to the end of this array.

This expression returns the array itself, so several appends may be chained together.

```
alphabet  = ['A', 'B', 'C', 'D']

alphabet.push('E', 'F', 'G')
⇒ ['A', 'B', 'C', 'D', 'E', 'F', 'G']

[1, 2, 3].push(4).push(5)
⇒ [1, 2, 3, 4, 5]
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Array.html#method-i-push

> Array Modification (Pop)

.pop → obj/nil **.pop(n) → new_ary**

Removes the last element from self and returns it, or nil if the array is empty.
If a number n is given, returns an array of the last n elements (or less) just like array.slice!(-n, n) does.

```
alphabet  = ['A', 'B', 'C', 'D', 'E', 'F', 'G']

alphabet.pop(2)
⇒ ['F', 'G']

alphabet
⇒ ['A', 'B', 'C', 'D', 'E']

alphabet.pop
⇒ 'E'

alphabet
⇒ ['A', 'B', 'C', 'D']
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Array.html#method-i-pop

> Array Modification (Unshift)

`.unshift(obj,...) → ary` `.prepend(obj,...) → ary`

Prepends objects to the front of self, moving other elements upwards.

```
alphabet  = ['A', 'B', 'C', 'D']

alphabet.unshift(1, '2')
⇒ [1, '2', 'A', 'B', 'C', 'D']

alphabet.prepend(0.4, true)
⇒ [0.4, true, 1, '2', 'A', 'B', 'C', 'D']
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Array.html#method-i-unshift

> Array Modification (Shift)

.shift → obj/nil **.shift(n) → new_ary**

Removes the first element of self and returns it (shifting all other elements down by one). Returns nil if the array is empty.

```
alphabet  = ['A', 'B', 'C', 'D', 'E', 'F']

alphabet.unshift
⇒ 'A'

alphabet
⇒ ['B', 'C', 'D', 'E', 'F']

alphabet.unshift(2)
⇒ ['B', 'C']

alphabet
⇒ ['D', 'E', 'F']
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Array.html#method-i-shift

> Hash

A Hash is a dictionary-like collection of unique keys and their values.

Also called associative arrays, they are similar to Arrays, but where an Array uses integers as its index, a Hash allows you to use any object type.

```
grades = { "Jane Doe" ⇒ 10, "Jim Doe" ⇒ 6 }
             key       value   key     value

grades["Jane Doe"]
⇒ 10

abse = { 1 ⇒ 'Won Deuk', 2 ⇒ 'Hong Sim' }

absen[2]
⇒ 'Hong Sim'
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Hash.html

> Hash

Bagaimana cara membuat hash kosong/baru?

```
grades = {}

grades
⇒ {}
```

```
grades = Hash.new

grades
⇒ {}
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Hash.html

> Hash

Bagaimana cara memasukkan nilai ke dalam hash?

```
grades = {}

grades['Won Deuk'] = 40

grades
⇒ { 'Won Deuk' ⇒ 40 }

grades['Hong Sim'] = 80

grades
⇒ { 'Won Deuk' ⇒ 40, 'Hong Sim' ⇒ 80 }
```

```
grades['Won Deuk'] = 50

grades
⇒ { 'Won Deuk' ⇒ 50, 'Hong Sim' ⇒ 80 }
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Hash.html

> Hash Modification (Delete)

.delete(key)

Deletes the key-value pair and returns the value from hsh whose key is equal to key. If the key is not found, it returns nil.

```
grades = { 'Won Deuk' ⇒ 40, 'Hong Sim' ⇒ 80 }

grades.delete('Won Deuk')
⇒ 40

grades
⇒ { 'Hong Sim' ⇒ 80 }
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Hash.html#method-i-delete

> Hash Modification (Delete If)

`.delete_if` `.delete_if { |key, value| block }`

Deletes every key-value pair from hash for which block evaluates to true.
If no block is given, an enumerator is returned instead.

```
grades = { 'Won Deuk' ⇒ 40, 'Hong Sim' ⇒ 80, 'So Hee' ⇒ 100 }

grades.delete_if { |key, value| key == 'Won Deuk' }
⇒ { 'Hong Sim' ⇒ 80, 'So Hee' ⇒ 100 }

grades.delete_if { |key, value| value < 90 }
⇒ { 'So Hee' ⇒ 100 }
```

Source: Ruby-Doc - https://ruby-doc.org/core-2.7.0/Hash.html#method-i-delete_if

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Looping

Ruby for Beginner
A Programmer's Best Friend

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

Method

Ruby for Beginner
A Programmer's Best Friend

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

EXTENDED

Ruby for Beginner

A Programmer's Best Friend

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

.File IO

Ruby for Beginner
A Programmer's Best Friend

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

.Error Handling

Ruby for Beginner
A Programmer's Best Friend

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

.Object Oriented Programming

Ruby for Beginner
A Programmer's Best Friend

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

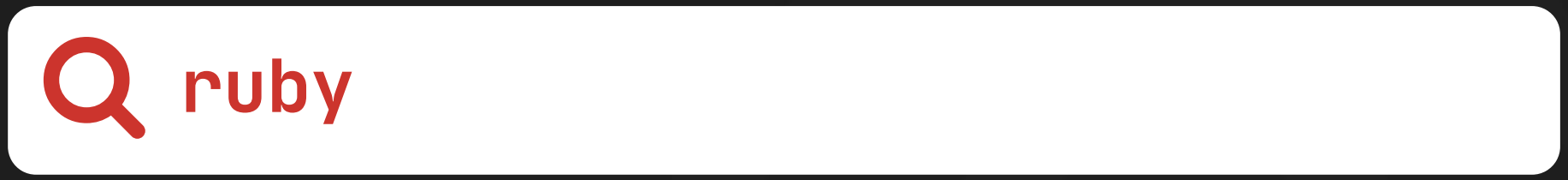
#ONLINEMEETING
2020-11-14 20.00 WITA

.Module

Ruby for Beginner
A Programmer's Best Friend

> Tips mencari dengan Google

Gunakan prefix “ruby” sebagai awalan kata kunci untu mencari di Google.



Kemudian, diikuti dengan keyword apa yang mau dicari.
Misal, **tentang perulangan dengan method “each”.**

Dengan cara ini, kita dapat membuat hasil pencarian yang lebih spesifik untuk bahasa pemrograman Ruby.

> Referensi Belajar Ruby

YouTube:
- GoRails
- Jesus Castello
- Drifting Ruby
- Nate Berkopec
- TechmakerTV
- Decypher Media
- zayne
- Code School
- FreeCodeCamp.org
- Sekolah Koding
- Agung Setiawan

WebPage:
- Ruby in 20 minutes
- RubyGuides.com

Online Course:
- IDRails.com

> Referensi Group Telegram untuk Bertanya seputar Ruby

1) Ruby Indonesia
2) Rails Indonesia

> Referensi Channel Telegram untuk Berita tentang Ruby

1) Ruby/Rails Inside

DILo
DIGITAL INNOVATION LOUNGE
BALIKPAPAN

#ONLINEMEETING
2020-11-14 20.00 WITA

:Terima_Kasih

> Made with ♥ by Rizqi Nur Assyaufi
> @BanditHijo
> 2020/11

Ruby for Beginner
A Programmer's Best Friend