

# RUBY QUICKSTART BOOTCAMP

**PLEASE FEEL FREE TO INTERRUPT AND  
ASK QUESTIONS!**

EXAMPLES PULLED FROM THE RUBY QUICKSTART

**[HTTPS://WWW.RUBY-LANG.ORG/EN/  
DOCUMENTATION/QUICKSTART/](https://www.ruby-lang.org/en/documentation/quickstart/)**

GETTING MORE HELP

**[HTTP://APIDOCK.COM/RUBY](http://apidock.com/ruby)**

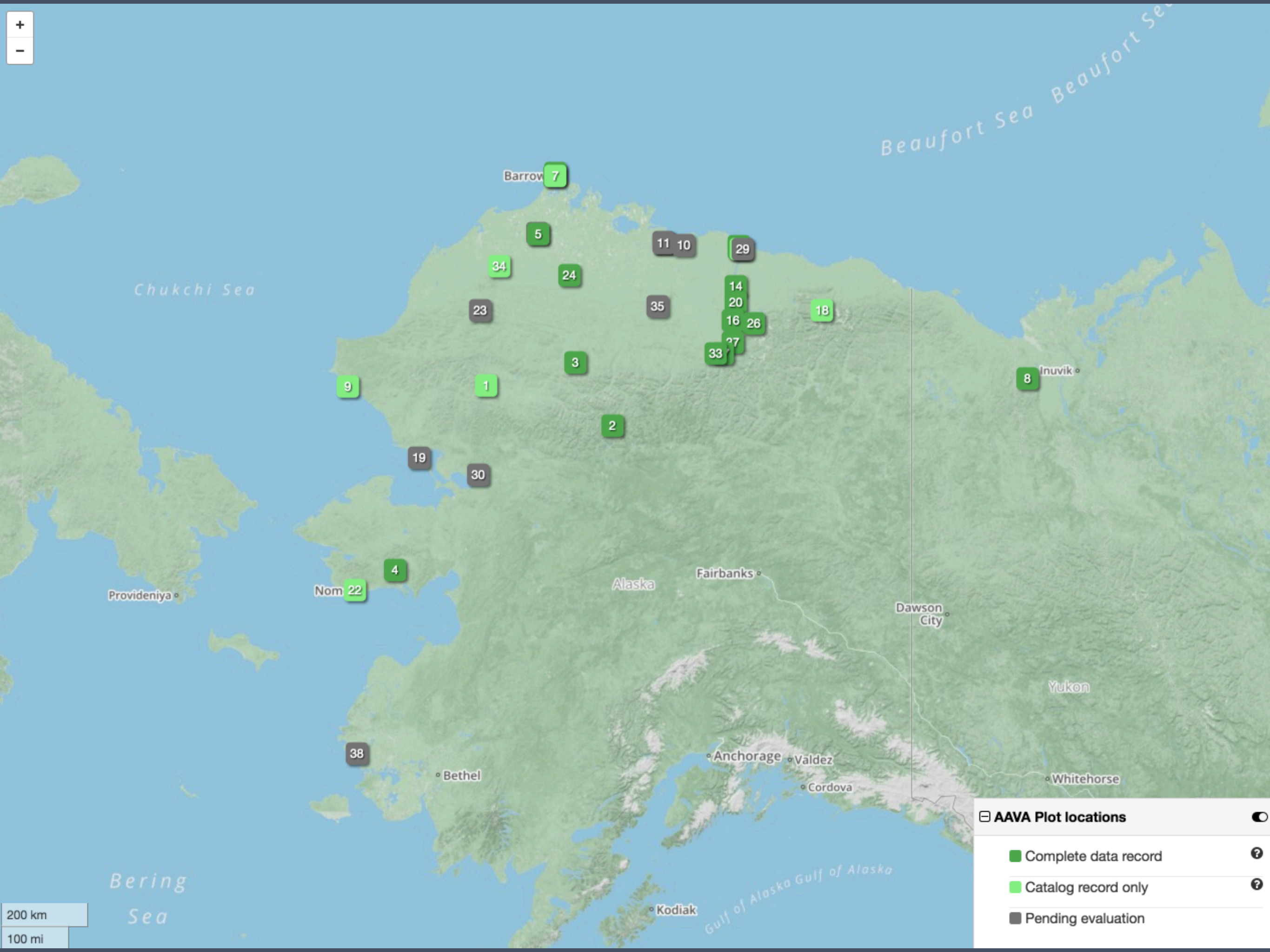
**YAK SHAVING**

ANY APPARENTLY  
USELESS ACTIVITY  
WHICH, BY ALLOWING  
YOU TO OVERCOME  
INTERMEDIATE  
DIFFICULTIES,  
ALLOWS YOU TO  
SOLVE A LARGER  
PROBLEM.



Turboveg releve number								
	C	D	E	F	G	H	I	S
1	Modified releve number for plot ma	Date (year/month)	Year plot surveyed	Dataset	Surveyed by (PI of project)	lat	lon	S
2	1	19840801	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.616404	-149.31386	
3	2	19840801	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.616927	-149.315557	
4	3	19840803	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.616066	-149.313924	
5	4A	19840803	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.615957	-149.31392	
6	4B	19840803	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.615957	-149.31392	
7	5	19840803	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.615678	-149.313957	
8	6	19840803	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.615553	-149.314201	
9	7	19840803	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.615468	-149.313987	
10	8	19840803	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.615335	-149.314011	
11	9	19840804	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.615185	-149.314009	
12	10	19840804	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.61497	-149.313902	
13	11	19840804	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.614913	-149.313964	
14	12	19840804	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.614505	-149.314095	
15	13	19840804	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.614375	-149.315923	
16	14	19840804	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.614491	-149.317891	
17	15	19840804	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.613997	-149.317875	
18	16	19840805	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.613978	-149.318158	
19	17	19840805	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.613286	-149.317333	
20	18	19840805	1984	Imnavait Creek (Walker et al. 1987a)	Donald A. 'Skip' Walker	68.61309	-149.317699	





**HOW WOULD YOU DO THAT?**



```
~/gits/aava-datasets/AAVA_Datasets_Grouped master yak aava
curl -L "https://docs.google.com/a/alaska.edu/spreadsheets/d/1ZJwLMz2r4K05uvCdRo_1hj1V8P-NdMJ1IIIsbtq-gC7s/export?exportFormat=csv#gid=0" > AAVA_Datasets_Grouped.csv
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left     Speed
100 15637    0 15637    0     0  15281      0 --:--:--  0:00:01 --:--:-- 15285
yak geojson -f -p EPSG:4326 -s group AAVA_Datasets_Grouped.vrt
ogr2ogr -sql 'select distinct group from AAVA_Datasets_Grouped' -f csv /vsistdout/ AAVA_Datasets_Grouped.vrt
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='0' AAVA_Datasets_Grouped_0.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_0.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='1' AAVA_Datasets_Grouped_1.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_1.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='3' AAVA_Datasets_Grouped_3.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_3.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='4' AAVA_Datasets_Grouped_4.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_4.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='8' AAVA_Datasets_Grouped_8.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_8.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='13' AAVA_Datasets_Grouped_13.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_13.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='17' AAVA_Datasets_Grouped_17.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_17.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='21' AAVA_Datasets_Grouped_21.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_21.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='25' AAVA_Datasets_Grouped_25.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_25.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='27' AAVA_Datasets_Grouped_27.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_27.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='31' AAVA_Datasets_Grouped_31.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_31.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='34' AAVA_Datasets_Grouped_34.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_34.geojson
ogr2ogr -t_srs EPSG:4326 -f GeoJSON -where group='36' AAVA_Datasets_Grouped_36.geojson AAVA_Datasets_Grouped.vrt
/Users/wfisher/gits/aava-datasets/AAVA_Datasets_Grouped/AAVA_Datasets_Grouped_36.geojson
open http://ubermap.gina.alaska.edu/geojson_layers/1/edit
~/gits/aava-datasets/AAVA_Datasets_Grouped master
```



# QUICK INTRODUCTION TO RUBY

RUBY COMES WITH A PROGRAM THAT YOU CAN USE TO RUN CODE 'ON THE FLY'. IT'S CALLED `irb` AND STANDS FOR INTERACTIVE RUBY

- > IF YOU'RE USING WINDOWS OPEN INTERACTIVE RUBY FROM THE RUBY SECTION OF THE START MENU.
- > IF YOU'RE USING MAC OR LINUX OPEN A TERMINAL AND TYPE `irb`

# IRB AS A CALCULATOR

## 1. ADDITION

$$3+2$$

## 2. MULTIPLICATION

$$3*2$$

## 1. POWERS

`3**2`

## 2. SQUARE ROOT

`Math.sqrt(9)`

# BREAKING IT DOWN

`MATH.SQRT(9)`

`MATH` IS A BUILT-IN MODULE FOR MATHEMATICS. MODULES SERVE TWO ROLES IN RUBY. THIS SHOWS ONE ROLE ABOUT HOW TO GROUP SIMILAR METHODS TOGETHER UNDER A FAMILIAR NAME. `MATH` ALSO CONTAINS METHODS LIKE `SIN()` AND `TAN()`



# BREAKING IT DOWN

**MATH.SQRT(9)**

**DOT (.)** IS HOW YOU IDENTIFY THE RECEIVER OF A MESSAGE. THE MESSAGE IN THIS CASE IS `sqrt(9)`. WHICH MEANS CALL THE METHOD `sqrt` (SHORT FOR SQUARE ROOT) WITH THE PARAMETER OF 9

**BREAKING IT DOWN**

**THE RESULT OF THIS IS THE VALUE 3.0**

# SAVING RESULTS (VARIABLES)

```
a = 3 ** 2
```

```
b = 4 ** 2
```

```
Math.sqrt(a+b)
```

# HELLO WORLD!

```
irb(main):001:0> "Hello World"  
=> "Hello World"
```



# HELLO WORLD!

```
irb(main):002:0> puts "Hello World"  
Hello World  
=> nil
```

# MAKING OUR OWN METHOD

```
def hi  
  puts "Hello World!"  
end  
hi  
hi()
```

# SAYING HI TO SOMEONE

## ADDING A PARAMETER TO THE METHOD

```
def hi(name)
  puts "Hello #{name}!"
end
hi "Will"
hi # error!
```

# WHAT IS THAT '#{NAME}' BIT?

```
def hi(name)
  puts "Hello #{name}!"
end
```



# MAKING IT A LITTLE BIT SMARTER

```
def hi(name = "World")  
  puts "Hello #{name.capitalize}!"  
end  
hi "will"  
hi
```

# INSPECTING THINGS IN IRB

```
name = "will"  
name.inspect  
name.methods  
name.methods.sort  
name.capitalize  
name.upcase  
name.upcase!  
name
```

# ARRAYS

```
a = [1, 2, 3, 4, 5]
```

```
a.size
```

```
a.max
```

```
a.reverse
```

```
a.first
```

```
a.last
```

# LOOPING

```
a = [1, 2, 3, 4, 5]  
a.each do |number|  
  puts number  
end
```

1

2

3

4

5



# MORE LOOPING

```
5.times do |number|  
  puts number  
end
```

0

1

2

3

4

HOW CAN WE MAKE THE OUTPUT LOOK LIKE THE  
FIRST LOOP?

# MAKING IT LOOK LIKE THE FIRST LOOP

```
5.times do |number|  
  puts number + 1  
end
```