

BREAKING THE ICE

WITH
REGULAR EXPRESSIONS

Contents

01 The String Story

02 Crew Emails

03 Confirmative

→ 04 Multi-line Strings

05 Capture Groups

Finding More Than Just 1 Match

Single text file

King penguin
Emperor penguin
Wandering albatross
Arctic Tern
Rockhopper Penguin
Weddell seal
Narwhal



We want to find all the birds



Looking at the List of Birds as a Single, Long String

King penguin\nEmperor
penguin\nWandering
albatross\nArctic Tern
\nNarwhal\nRockhopper
Penguin\nWeddell seal

\n

Multiline strings are delimited by the newline character



WARNING! Different operating systems might use other newline characters.

Analyze the Subject String

Subject

King penguin
Emperor penguin
Wandering albatross
Arctic Tern
Narwhal
Rockhopper Penguin
Weddell seal

Has multiple lines separated by
newline characters

Each animal name is 1-2 words

All animal names have mixed casing

Matching the First Animal Name

Regular Expression

/penguin/i

Match the first
occurrence of "penguin"

Subject

King penguin

Emperor penguin

Wandering albatross

Arctic Tern

Narwhal

Rockhopper Penguin

Weddell seal

But we want to match
all penguins, not just
the first

Pattern Goals

- ✓ penguin
- albatross
- tern
- full name
- nothing before or after
- ✗ all occurrences

Global Modifier

Regular Expression

/penguin/ig

Match "penguin" as many
times as possible
with global modifier

Subject

King penguin

Emperor penguin

Wandering albatross

Arctic Tern

Narwhal

Rockhopper Penguin

Weddell seal

Pattern Goals

- ✓ penguin
- albatross
- tern
- full name
- nothing before or after
- ✓ all occurrences

Matching the Full Name of Just Penguin Animals

Regular Expression

```
/\w+\spenguin/ig
```

Subject

King penguin
Emperor penguin
Wandering albatross
Arctic Tern
Narwhal
Rockhopper Penguin
Weddell seal

Pattern Goals

- ✓ penguin
- albatross
- tern
- ✓ full name
- nothing before or after
- ✓ all occurrences

Our Anchors Aren't Working!

Regular Expression

```
/^w+spenguin$/ig
```

Subject

King penguin
Emperor penguin
Wandering albatross
Arctic Tern
Narwhal
Rockhopper Penguin
Weddell seal

Now nothing is matching!

Pattern Goals

- ✗ penguin
- ✗ albatross
- ✗ tern
- ✗ full name
- ✗ nothing before or after
- ✗ all occurrences

BREAKING THE ICE
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^ Anchors in a Normal Subject String

Subject

King penguin
Emperor penguin
Wandering albatross
Arctic Tern
Narwhal
Rockhopper Penguin
Weddell seal



anchors to beginning
of string



anchors to end of string

we were hoping it would do this!

Anchors in a Multiline String

Regular Expression

```
/^\\w+\\spenguin$/mig
```

Subject

^ anchors to beginning of line and not entire subject

Pattern Goals

- ✓ penguin
- albatross
- tern
- ✓ full name
- ✓ nothing before or after
- ✓ all occurrences

King penguin
Emperor penguin
Wandering albatross
Arctic Tern
Narwhal
Rockhopper Penguin
Weddell seal

\$ anchors to end of line and not entire subject

m = multiline modifier

BREAKING THE ICE
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Capturing the Full Animal Name

Adds "albatross" to search pattern

Regular Expression

```
/^\\w+\\s(penguin|albatross)$/mig
```

Subject

King penguin

Emperor penguin

Wandering albatross

Arctic Tern

Narwhal

Rockhopper Penguin

Weddell seal

Pattern Goals

- ✓ penguin
- ✓ albatross
- ✓ tern
- ✓ full name
- ✓ nothing before or after
- ✓ all occurrences

Capturing the Full Animal Name

Adds "tern" to search pattern



Regular Expression

```
/^\w+\s(penguin|albatross|tern)$/mig
```

Subject

King penguin

Emperor penguin

Wandering albatross

Arctic Tern

Narwhal

Rockhopper Penguin

Weddell seal

Pattern Goals

- ✓ penguin
- ✓ albatross
- ✓ tern
- ✓ full name
- ✓ nothing before or after
- ✓ all occurrences