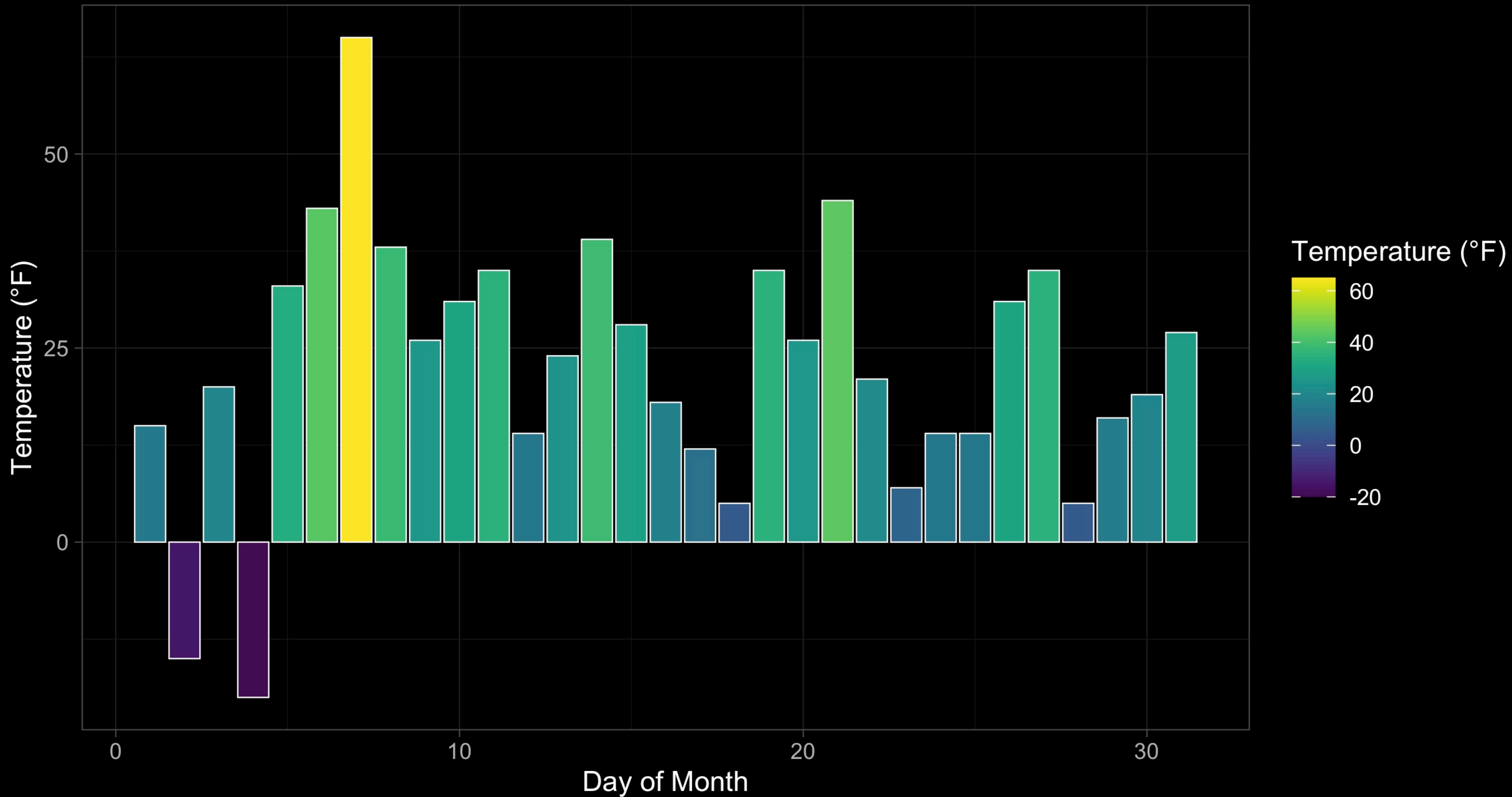


Introduction to
Programming with R

Transforming Data

Outliers

Average Daily Temperature in January



Transforming Vectors

15	-15	20	-20	33	43	65	38	...
----	-----	----	-----	----	----	----	----	-----

temps

15	-15	20	-20	33	43	65	38	...
----	-----	----	-----	----	----	----	----	-----

temps[2]

15	-15	20	-20	33	43	65	38	...
----	-----	----	-----	----	----	----	----	-----

temps[4]

15	-15	20	-20	33	43	65	38	...
----	-----	----	-----	----	----	----	----	-----

temps[7]

15	-15	20	-20	33	43	65	38	...
----	-----	----	-----	----	----	----	----	-----

temps

15	-15	20	-20	33	43	65	38	...
----	-----	----	-----	----	----	----	----	-----

`temps[c(2, 4, 7)]`

-15	-20	65
-----	-----	----

temps[c(2, 4, 7)]

15	-15	20	-20	33	43	65	38	...
----	-----	----	-----	----	----	----	----	-----

`temps[c(2, 4, 7)]`

15	-15	20	-20	33	43	65	38	...
----	-----	----	-----	----	----	----	----	-----

`temps[-c(2, 4, 7)]`

15	20	33	43	38	...
----	----	----	----	----	-----

`temps[-c(2, 4, 7)]`

Logical Expressions

==

!=

>

>=

<

<=

Logicals

TRUE

FALSE

T

F

Logical Operators

&

|

...

&&

||

...

all

any

Subsets with Logical Vectors

temps

15	-15	20	-20	33	43	65	38	...
----	-----	----	-----	----	----	----	----	-----

FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	...
-------	------	-------	------	-------	-------	------	-------	-----

filter

temps[filter]



`temps[filter]`

-15	-20	65
-----	-----	----

Break

Subsets of Tables

chick

feed

weight

1	casein	368
2	casein	390
3	casein	379
4	fava	179
5	fava	160
6	fava	136
...

chick

feed

weight

1	casein	368
2	casein	390
3	casein	379
4	fava	179
5	fava	160
6	fava	136
...

chick

feed

weight

1	casein	368
2	casein	390
3	casein	379
4	fava	179
5	fava	160
6	fava	136
...

chick	feed	weight
1	casein	368
2	casein	390
3	casein	379
4	fava	179
5	fava	160
6	fava	136
...

`chicks[row, column]`

TRUE
TRUE
TRUE
FALSE
FALSE
FALSE
...

`filter`

<code>chick</code>	<code>feed</code>	<code>weight</code>
1	casein	368
2	casein	390
3	casein	379
4	fava	179
5	fava	160
6	fava	136
...

`chicks[row, column]`

chick	feed	weight
1	casein	368
2	casein	390
3	casein	379
4	fava	179
5	fava	160
6	fava	136
...

`chicks[filter,]`

chick	feed	weight
1	casein	368
2	casein	390
3	casein	379

```
chicks[filter, ]
```

Logical Functions

`is.infinite`

`is.na`

`is.nan`

`is.null`

Break

Menus

1. casein

2. fava

3. linseed

4. meatmeal

5. soybean

6. sunflower

Feed type:

Escape Characters

\n

\t

...

1. casein

2. fava

3. linseed

4. meatmeal

5. soybean

6. sunflower

1
2
3
4
5
6

" . "
" . "
" . "
" . "
" . "
" . "

casein
fava
linseed
meatmeal
soybean
sunflower

1
2
3
4
5
6

". "
". "
". "
". "
". "
". "

casein
fava
linseed
meatmeal
soybean
sunflower



1. casein
2. fava
3. linseed
4. meatmeal
5. soybean
6. sunflower

1
2
3
4
5
6

". "

casein
fava
linseed
meatmeal
soybean
sunflower

1
2
3
4
5
6

". "

casein
fava
linseed
meatmeal
soybean
sunflower

1
2
3
4
5
6

". "

casein
fava
linseed
meatmeal
soybean
sunflower



1
2
3
4
5
6

". "

casein
fava
linseed
meatmeal
soybean
sunflower



1. casein

1
2
3
4
5
6

". "
". "

casein
fava
linseed
meatmeal
soybean
sunflower



1. casein
2. fava

1
2
3
4
5
6

". "
". "
". "

casein
fava
linseed
meatmeal
soybean
sunflower



1. casein
2. fava
3. linseed

1
2
3
4
5
6

". "
". "
". "
". "
". "
". "

casein
fava
linseed
meatmeal
soybean
sunflower



1. casein
2. fava
3. linseed
4. meatmeal
5. soybean
6. sunflower

Vector Recycling

Conditionals

if

if

else if

if

else if

else

Break

customer_id sale_amount

9971	29
7934	71
2275	58
3639	104
3566	101
6093	42
...	...

customer_id sale_amount

9971	29
7934	71
2275	58
...	...

customer_id sale_amount

3639	104
3566	101
6093	42
...	...

customer_id sale_amount

9971	29
7934	71
2275	58
3639	104
3566	101
6093	42
...	...

`cbind`

`rbind`

customer_id sale_amount

9971	29
7934	71
2275	58
3639	104
3566	101
6093	42
...	...

sales

customer_id	sale_amount	value
9971	29	Regular
7934	71	Regular
2275	58	Regular
3639	104	High Value
3566	101	High Value
6093	42	Regular
...

sales

ifelse

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