Week 13 Assignment

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```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## v forcats   1.0.0     v stringr   1.5.2
## v ggplot2   4.0.0     v tibble    3.3.0
## v lubridate 1.9.4     v tidyr     1.3.1
## v purrr     1.1.0
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

1. For Loop Basics (30 pts)

1a.

```
## [1] 3
## [1] 6
## [1] 9
## [1] 12
## [1] 15
```

1b.

```
## [1] 4.84
## [1] 7.7
## [1] 21.12
## [1] 2.64
```

1c.

```
## [1] "robin"
## [1] "woodpecker"
## [1] "blue jay"
## [1] "sparrow"
```

1d.

```
## [1]  5.309292 13.854424 38.484510
```

1e.

```
## [1] 3.85 5.28 4.48
```

2. Size Estimates by Name (30 pts)

```
## Rows: 500 Columns: 2
## -- Column specification --------------------------------------------------------
## Delimiter: ","
```

```
## chr (1): species
## dbl (1): lengths
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

2a.

```
## [1] 24341.68 27017.90 67453.38 22114.19 53884.76 52026.34
```

2b.

```
## # A tibble: 6 x 3
##   species      lengths masses
##   <chr>          <dbl>  <dbl>
## 1 Stegosauria     18.5 24342.
## 2 Ankylosauria    16.4 27018.
## 3 Ankylosauria    23.7 67453.
## 4 Sauropoda       23.9 22114.
## 5 Ankylosauria    21.7 53885.
## 6 Ankylosauria    21.4 52026.
```

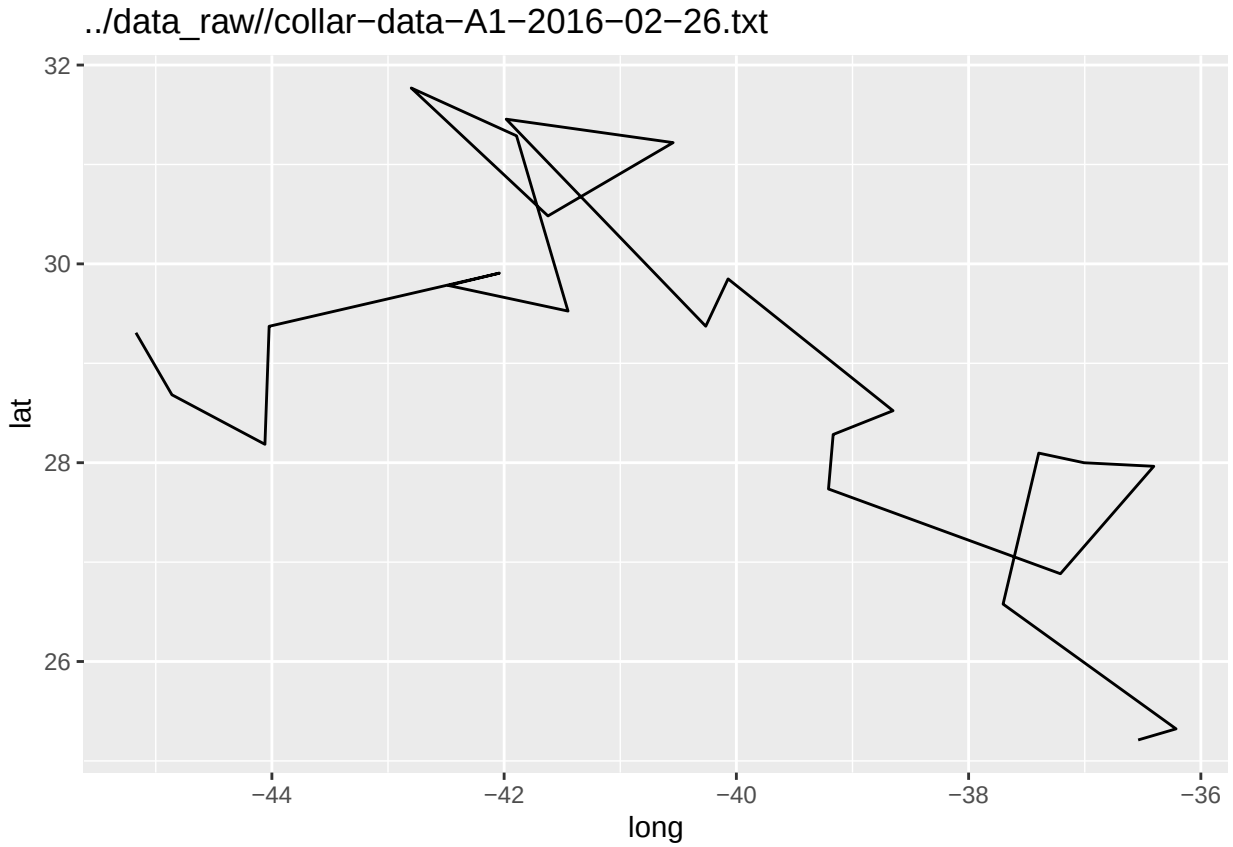
2c.

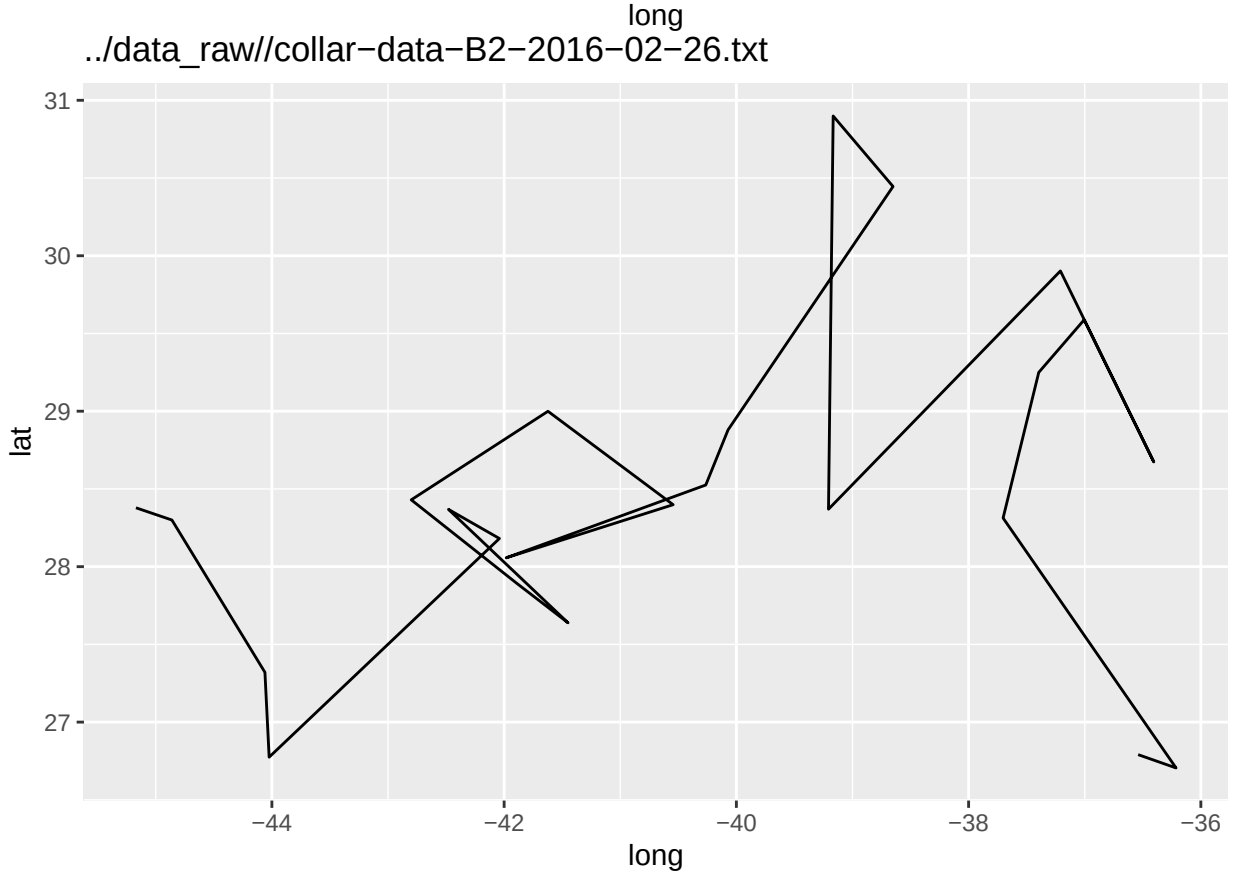
```
## # A tibble: 4 x 2
##   species      avg_mass
##   <chr>           <dbl>
## 1 Ankylosauria   46819.
## 2 Sauropoda      16104.
## 3 Stegosauria    31924.
## 4 Theropoda      45572.
```

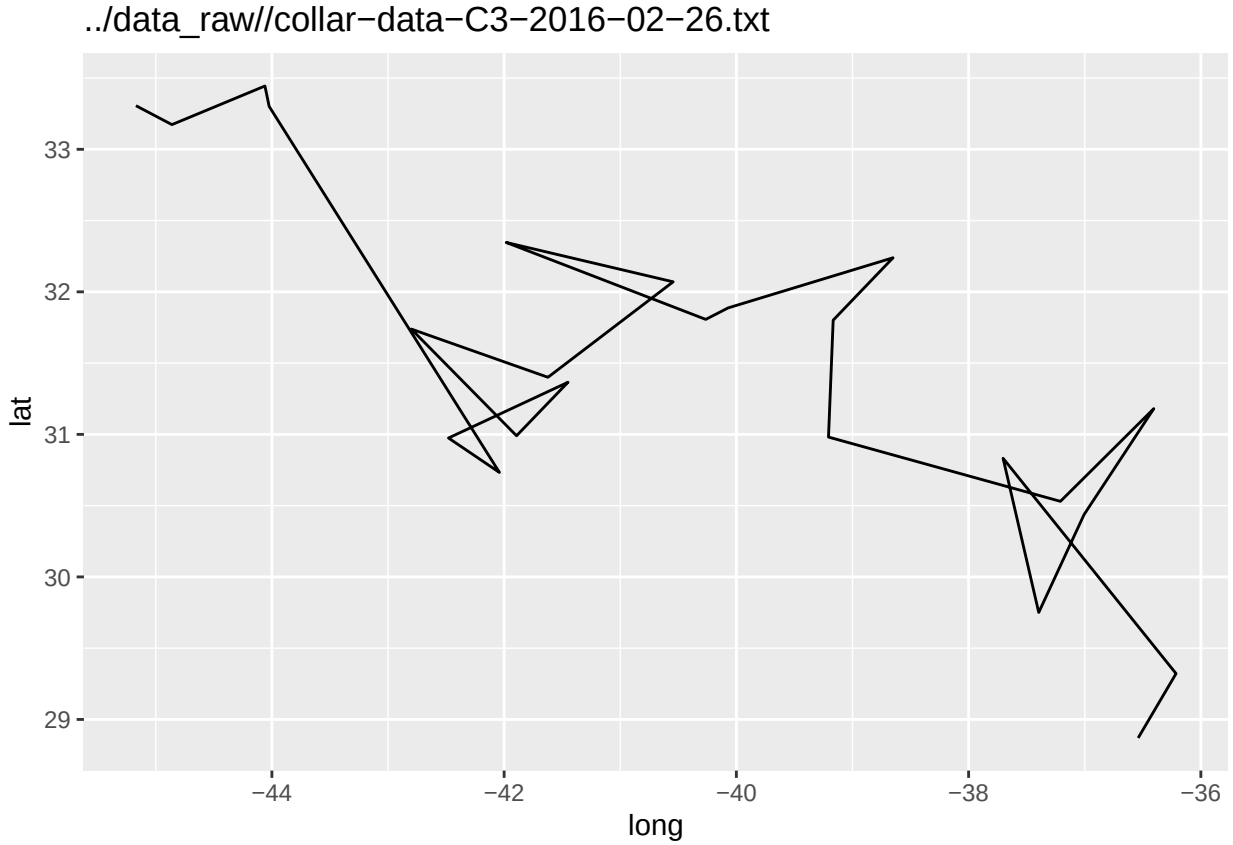
3. Multi-file Analysis (40 pts)

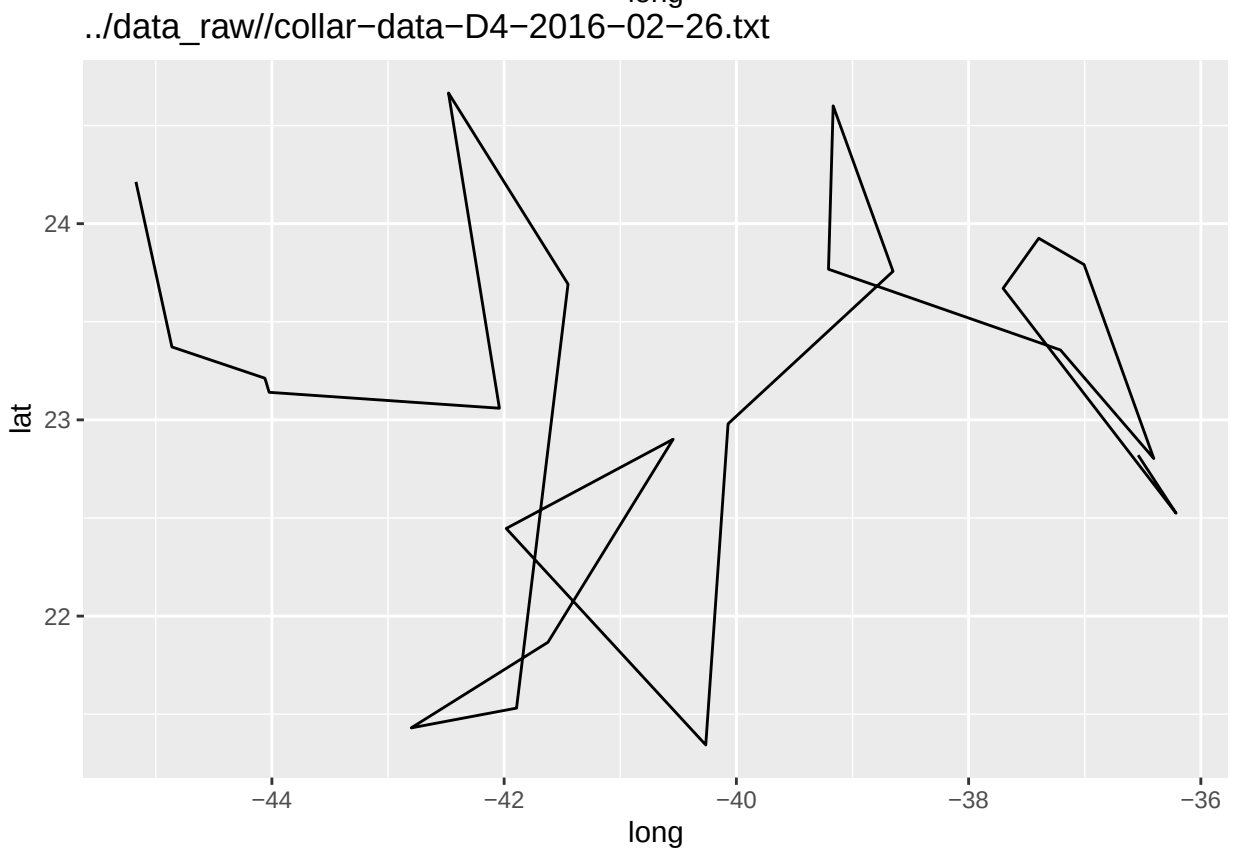
3a.

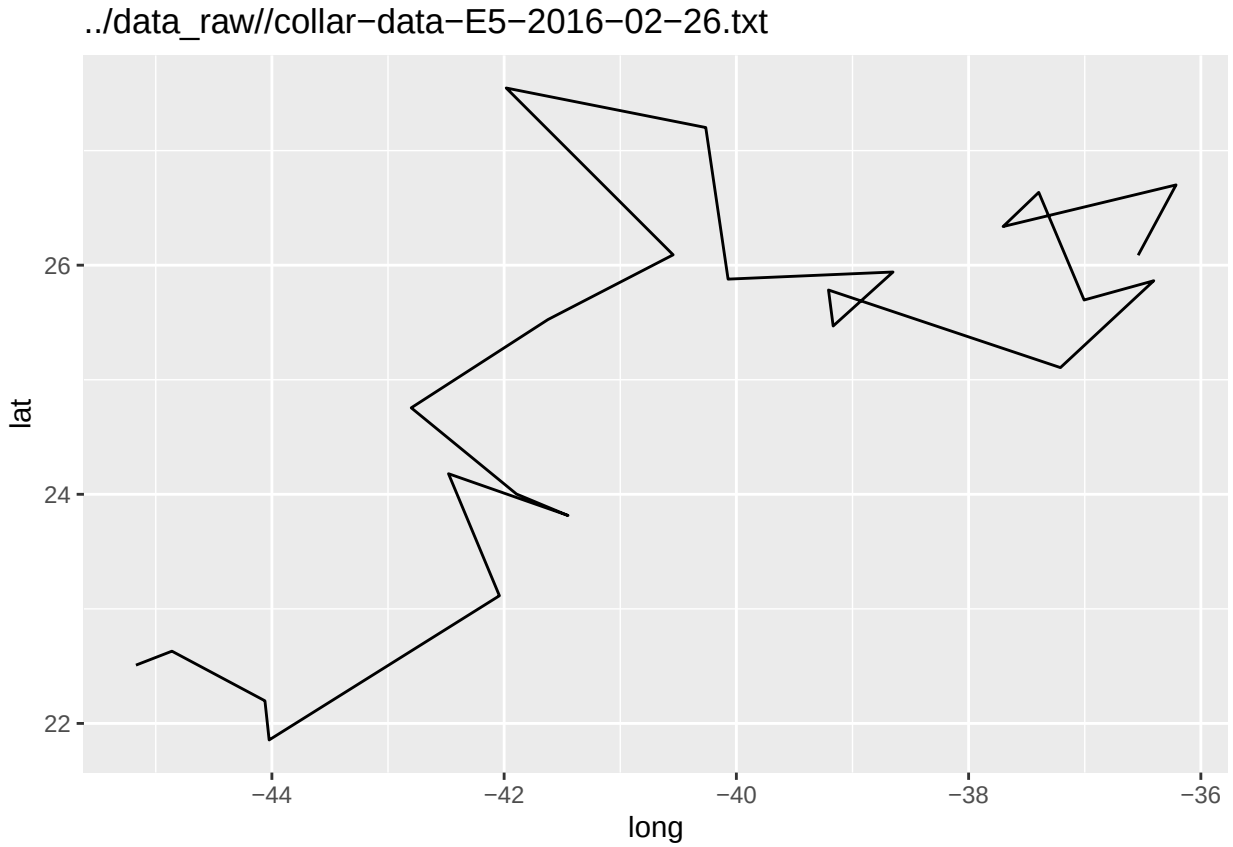
```
## [1] "3a"
```

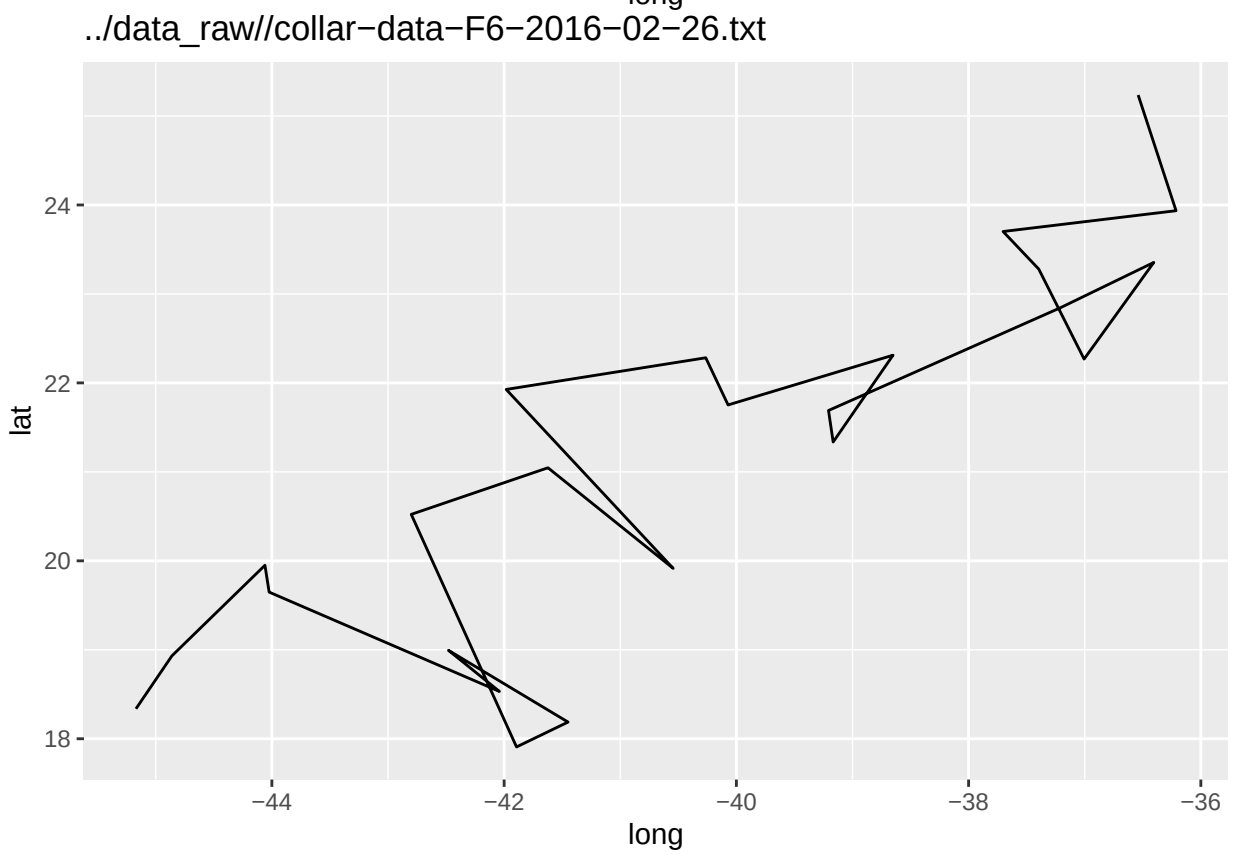

../data_raw//collar−data−A1−2016−02−26.txt
32
30
28
26
lat
−44
−42
−40
−38
−36
long

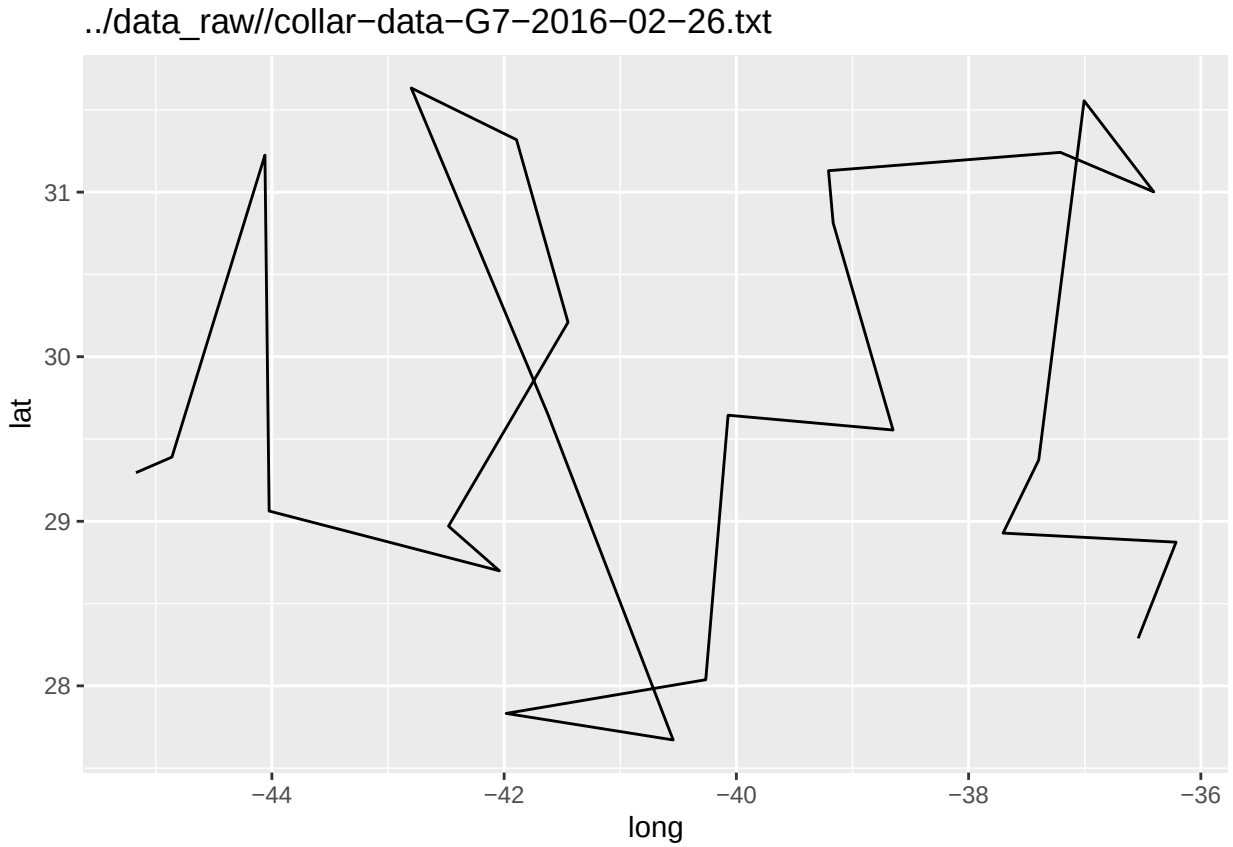

../data_raw//collar−data−B2−2016−02−26.txt
31
30
29
28
27
lat
−44
−42
−40
−38
−36
long

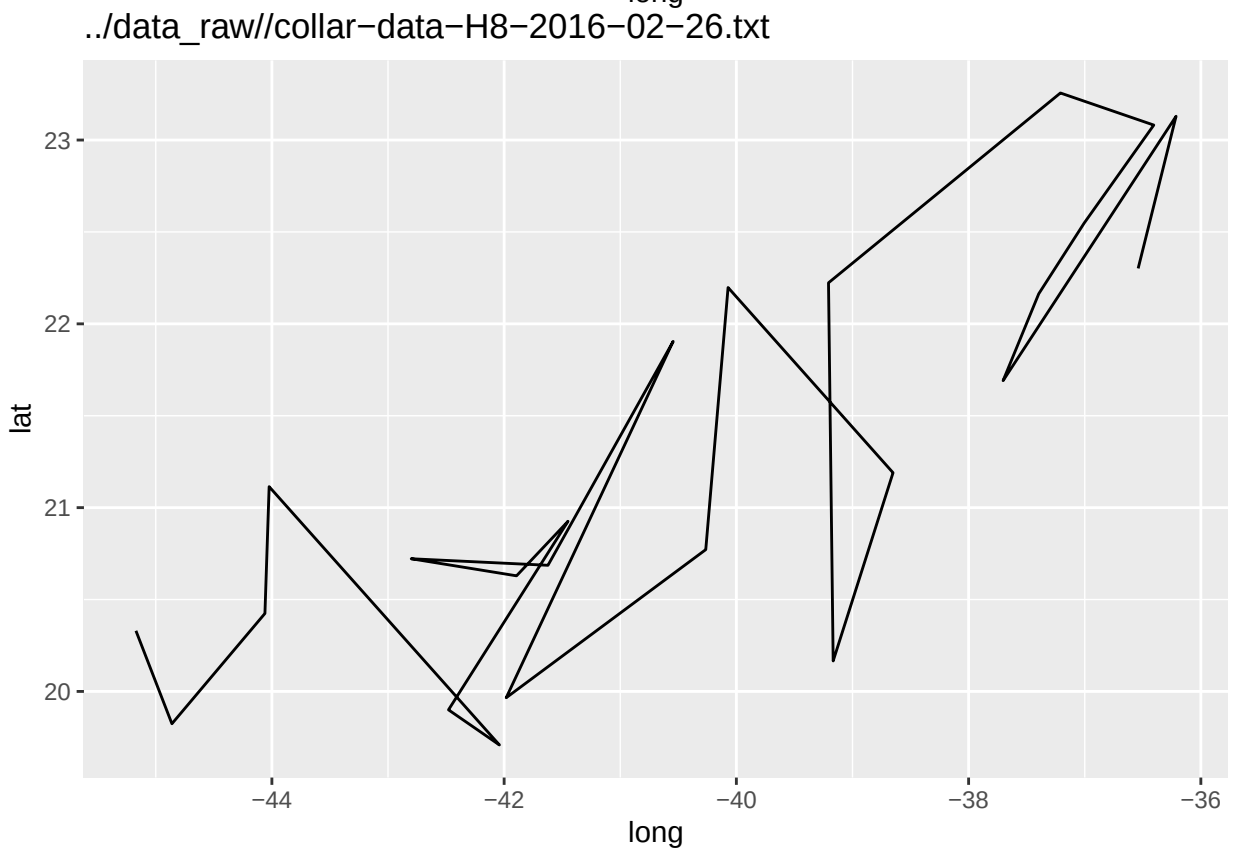

../data_raw//collar−data−C3−2016−02−26.txt
lat
long
33
32
31
30
29
−44
−42
−40
−38
−36

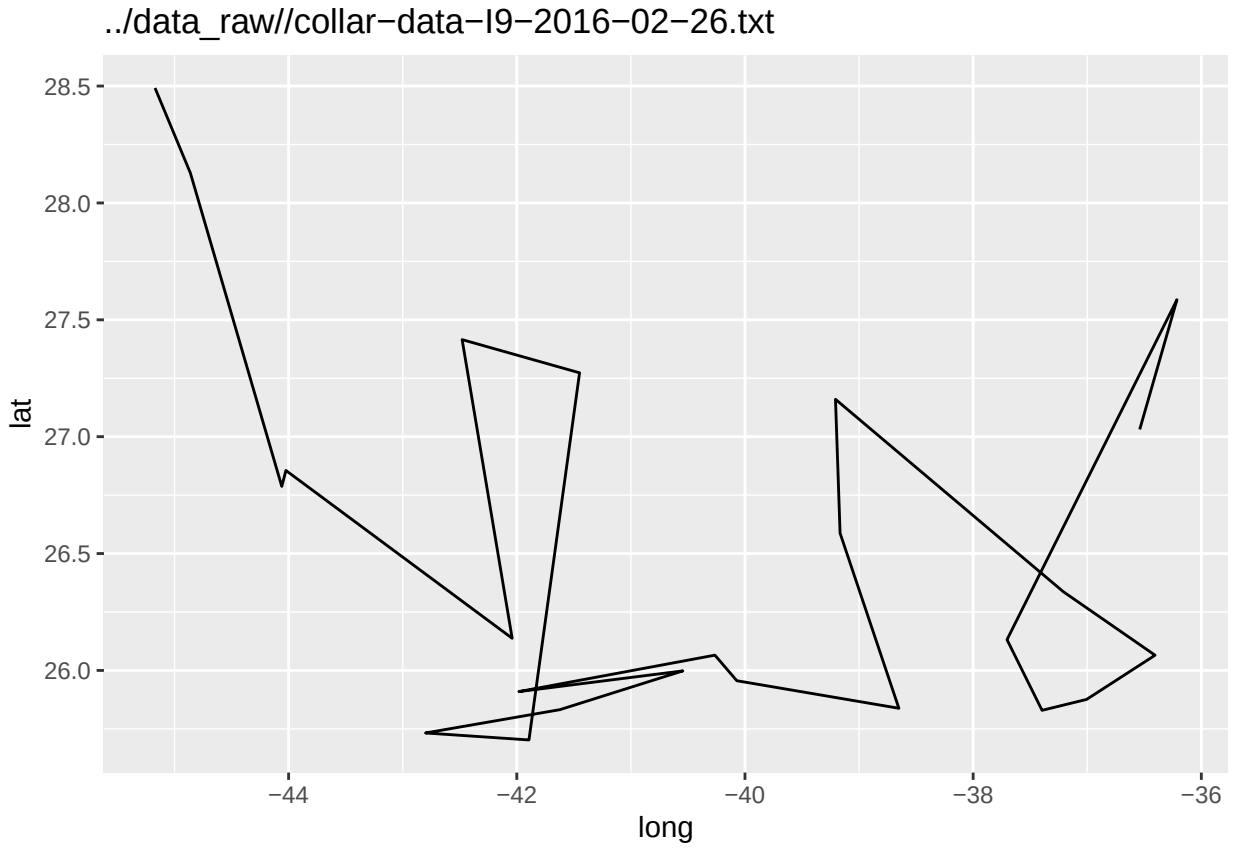

../data_raw//collar−data−D4−2016−02−26.txt
lat
long
24
23
22
−44
−42
−40
−38
−36

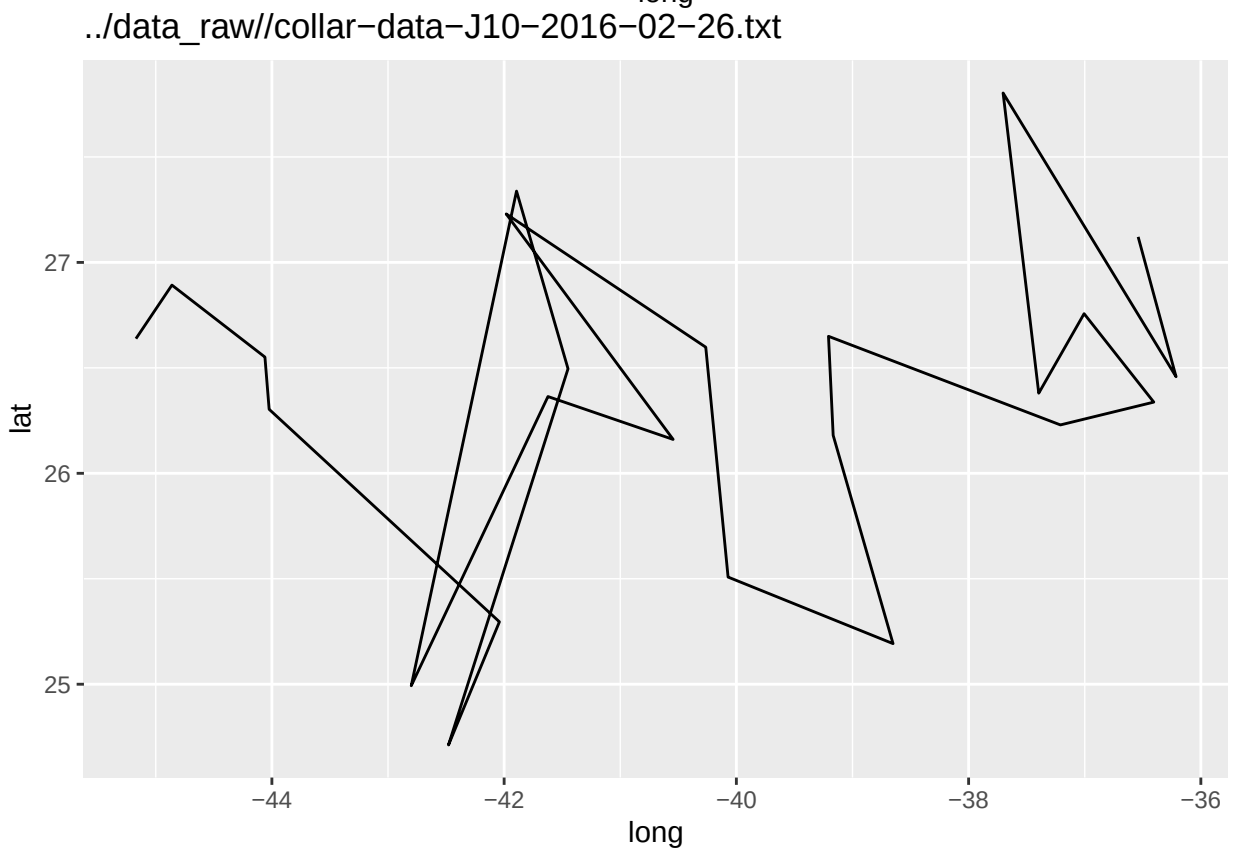

../data_raw//collar−data−E5−2016−02−26.txt
lat
26
24
22
−44
−42
−40
−38
−36
long


../data_raw//collar−data−F6−2016−02−26.txt
lat
24
22
20
18
−44
−42
−40
−38
−36
long

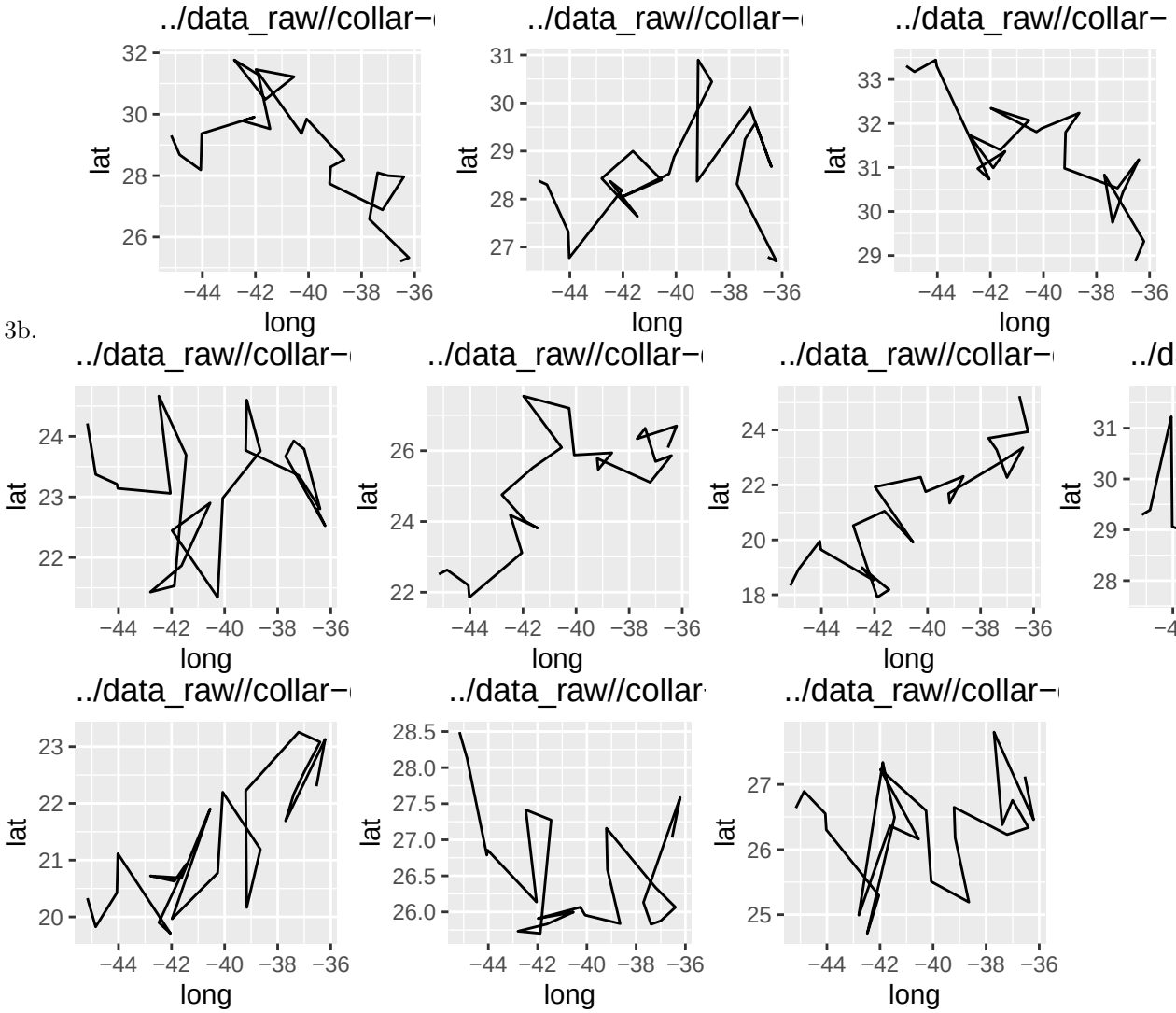

../data_raw//collar−data−G7−2016−02−26.txt
31
30
29
28
lat
−44
−42
−40
−38
−36
long


../data_raw//collar−data−H8−2016−02−26.txt
23
22
21
20
lat
−44
−42
−40
−38
−36
long


../data_raw//collar−data−I9−2016−02−26.txt
28.5
28.0
27.5
27.0
26.5
26.0
lat
−44
−42
−40
−38
−36
long


../data_raw//collar−data−J10−2016−02−26.txt
27
26
25
lat
−44
−42
−40
−38
−36
long

3b.




```
##                                  file_name  max_lat  min_lat observations
## 1   ../data_raw//collar-data-A1-2016-02-26.txt 31.76912 25.21080           24
## 2   ../data_raw//collar-data-B2-2016-02-26.txt 30.89907 26.70509           24
## 3   ../data_raw//collar-data-C3-2016-02-26.txt 33.44421 28.86998           24
## 4   ../data_raw//collar-data-D4-2016-02-26.txt 24.66598 21.34315           24
## 5   ../data_raw//collar-data-E5-2016-02-26.txt 27.54663 21.85565           24
## 6   ../data_raw//collar-data-F6-2016-02-26.txt 25.23623 17.90788           24
## 7   ../data_raw//collar-data-G7-2016-02-26.txt 31.63272 27.67120           24
## 8   ../data_raw//collar-data-H8-2016-02-26.txt 23.25601 19.70875           24
## 9   ../data_raw//collar-data-I9-2016-02-26.txt 28.49172 25.70252           24
## 10 ../data_raw//collar-data-J10-2016-02-26.txt 27.80325 24.71200           24
```

4. DNA or RNA (20 points)

4a.

```
## [1] "DNA"
## [1] "RNA"
## [1] "UNKNOWN"
```

4b.

```
## [1] "DNA"
## [1] "RNA"
## [1] "UNKNOWN"
## [1] "RNA"
## [1] "RNA"
```

4c.

```
##      type
## 1     DNA
## 2     RNA
## 3 UNKNOWN
## 4     RNA
## 5     RNA
##                                                                                 sequence
## 1          ttgaatgccttacaactgatcattacacaggcggcatgaagcaaaaatatactgtgaaccaatgcaggcg
## 2          gauuauuccccacaaagggagugggauuaggagcugcaucauuuacaagagcagaauguuucaaaugcau
## 3                                  gaaagcaagaaaaggcaggcgaggaagggaagaaggggggggaaacc
## 4                 guuuccuacaguauuugaugagaaugagagcaccugaucagguggauaaggaagaugaagacu
## 5 gauaaggaagaugaagacuuucaggaaucuaauaaaaugcacuccaugaauggauucauguaugggaaucagccggguc
```

4d.

```
##      type
## 1     DNA
## 2     RNA
## 3 UNKNOWN
## 4     RNA
## 5     RNA
##                                                                                 sequence
## 1          ttgaatgccttacaactgatcattacacaggcggcatgaagcaaaaatatactgtgaaccaatgcaggcg
## 2          gauuauuccccacaaagggagugggauuaggagcugcaucauuuacaagagcagaauguuucaaaugcau
## 3                                  gaaagcaagaaaaggcaggcgaggaagggaagaaggggggggaaacc
## 4                 guuuccuacaguauuugaugagaaugagagcaccugaucagguggauaaggaagaugaagacu
## 5 gauaaggaagaugaagacuuucaggaaucuaauaaaaugcacuccaugaauggauucauguaugggaaucagccggguc
```

4e. OPTIONAL

```
##          ttgaatgccttacaactgatcattacacaggcggcatgaagcaaaaatatactgtgaaccaatgcaggcg
##                                                                           "DNA"
##          gauuauuccccacaaagggagugggauuaggagcugcaucauuuacaagagcagaauguuucaaaugcau
##                                                                           "RNA"
##                                   gaaagcaagaaaaggcaggcgaggaagggaagaaggggggggaaacc
##                                                                       "UNKNOWN"
##                 guuuccuacaguauuugaugagaaugagagcaccugaucagguggauaaggaagaugaagacu
##                                                                           "RNA"
## gauaaggaagaugaagacuuucaggaaucuaauaaaaugcacuccaugaauggauucauguaugggaaucagccggguc
##                                                                           "RNA"
```

4f. OPTIONAL

```
## # A tibble: 5 x 2
## # Rowwise:
##   type    sequences
##   <chr>   <chr>
## 1 DNA     ttgaatgccttacaactgatcattacacaggcggcatgaagcaaaaatatactgtgaaccaatgcaggcg
```

```
## 2 RNA     gauuauucccacaaagggaguggguauuaggagcugcaucauuuacaagagcagaauguuucaaaugcau
## 3 UNKNOWN gaaagcaagaaaaggcaggcgaggaagggaagaaggggggggaaacc
## 4 RNA     guuuccuacaguauuugaugagaaugagagcaccugaucagguggauaaggaagaugaagacu
## 5 RNA     gauaaggaagaugaagacuuucaggaaucuaauaaaaugcacuccaugaauggauucauguaugggaau~
```