Hengst Chapter 2: B)

2019 and 2020 temperature ranges

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
##
## -- Column specification --------------------------------------------------------
## cols(
##   site = col_character(),
##   Date_time = col_datetime(format = ""),
##   degf_avg = col_double(),
##   degf_lo = col_double(),
##   degf_hi = col_double(),
##   rh_avg = col_double()
## )
```

```
## # A tibble: 18,969 x 6
##    site      Date_time           degf_avg degf_lo degf_hi rh_avg
##    <chr>     <dttm>                 <dbl>   <dbl>   <dbl>  <dbl>
##  1 UCKearney 2019-05-16 17:00:00     56.1    55.4    56.8   83.0
##  2 UCKearney 2019-05-16 18:00:00     57.5    56.1    58.6   81.7
##  3 UCKearney 2019-05-16 19:00:00     55.0    53.8    56.8   90.4
##  4 UCKearney 2019-05-16 20:00:00     53.5    52.9    54.1   95.1
##  5 UCKearney 2019-05-16 21:00:00     52.4    52      52.9   97.7
##  6 UCKearney 2019-05-16 22:00:00     52.3    52      52.7   97.2
##  7 UCKearney 2019-05-16 23:00:00     53.1    52.7    53.6   90.3
##  8 UCKearney 2019-05-17 00:00:00     53.2    52.7    53.8   89.2
##  9 UCKearney 2019-05-17 01:00:00     52.3    51.6    53.1   93.3
## 10 UCKearney 2019-05-17 02:00:00     52.5    52.2    52.9   91.6
## # ... with 18,959 more rows
```

2019 <61F: Percent nights by month

```
alltemps19 %>% # 18969 to 798
  dplyr::mutate(mnth = lubridate::month(Date_time, label = TRUE, abbr = TRUE),
                day_of_mnth = lubridate::mday(Date_time)) %>%
  dplyr::group_by(site, mnth, day_of_mnth) %>%
  dplyr::summarise(degf_lo = min(degf_lo)) %>%
  dplyr::mutate(lt66 = ifelse(degf_lo < 66,1,0),
         lt52 = ifelse(degf_lo <= 52,1,0)) %>%
  dplyr::filter(!is.na(degf_lo)) %>%
  dplyr::group_by(site,mnth) %>%
  dplyr::summarise(lt66 = sum(lt66),
            lt52 = sum(lt52),
            nObs = dplyr::n(),
```

```
            pct_lt66 = 100*lt66/nObs,
            pct_lt52 = 100*lt52/nObs) %>%
  dplyr::select(site,mnth,pct_lt66) %>%
  tidyr::pivot_wider(id_cols = site,
                     names_from = mnth,
                     values_from = pct_lt66,
                     values_fill = 0) %>%
  knitr::kable(., "latex")
```

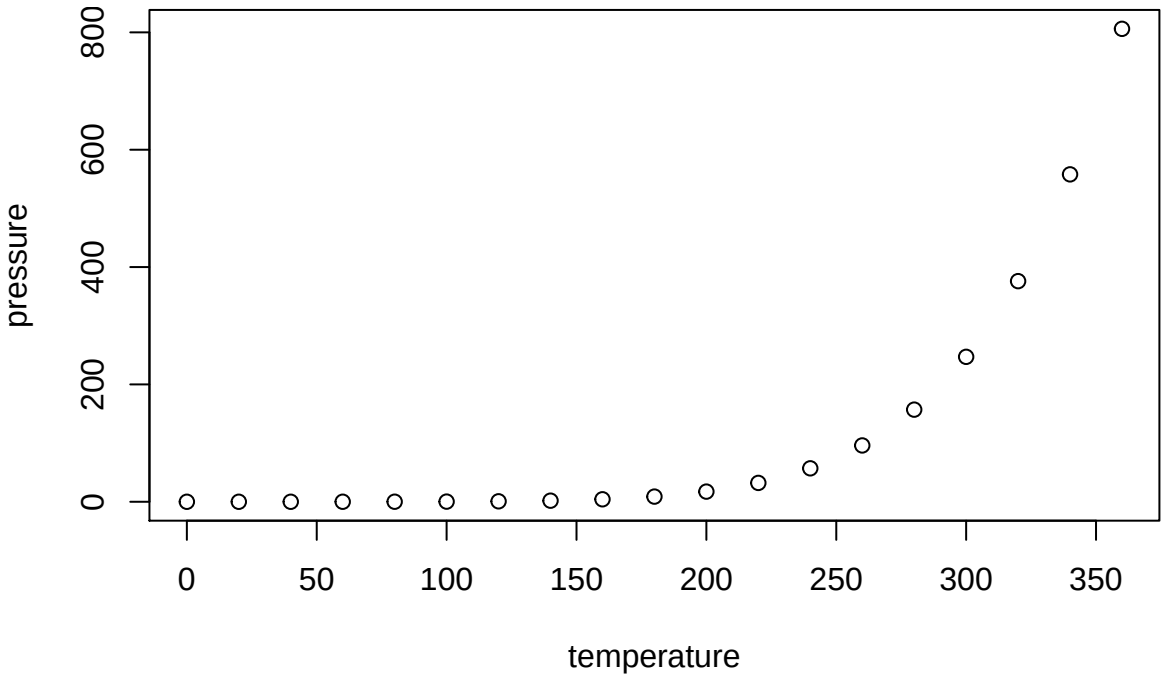
```
## `summarise()` has grouped output by 'site', 'mnth'. You can override using the `.groups` argument.
```

```
## `summarise()` has grouped output by 'site'. You can override using the `.groups` argument.
```

site	Jun	Jul	Aug	Sep	Oct	May	Nov
MWoolf_east	70.37037	74.19355	70.96774	96.66667	100	0	0
MWoolf_west	90.00000	83.87097	100.00000	96.66667	100	100	0
Perez	92.59259	96.77419	74.19355	93.33333	100	0	100
UCKearney	86.66667	80.64516	80.64516	96.66667	100	100	100
usda	76.66667	70.96774	74.19355	90.00000	100	100	0

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.