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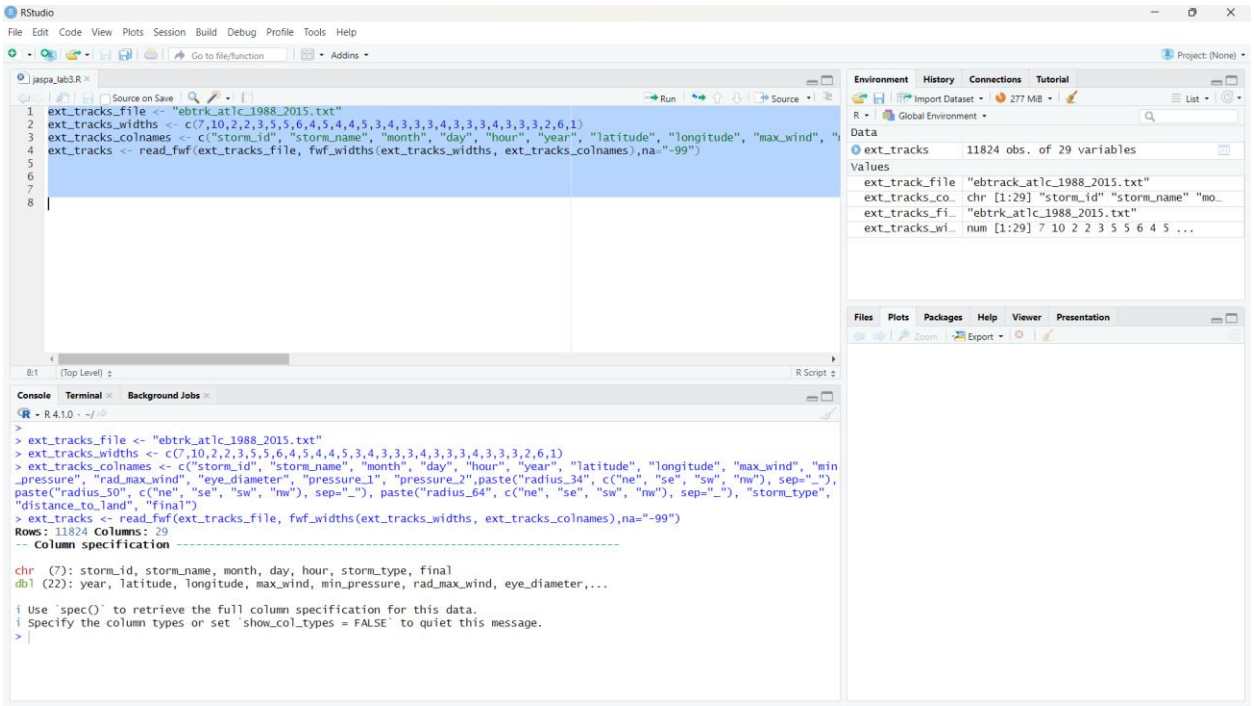
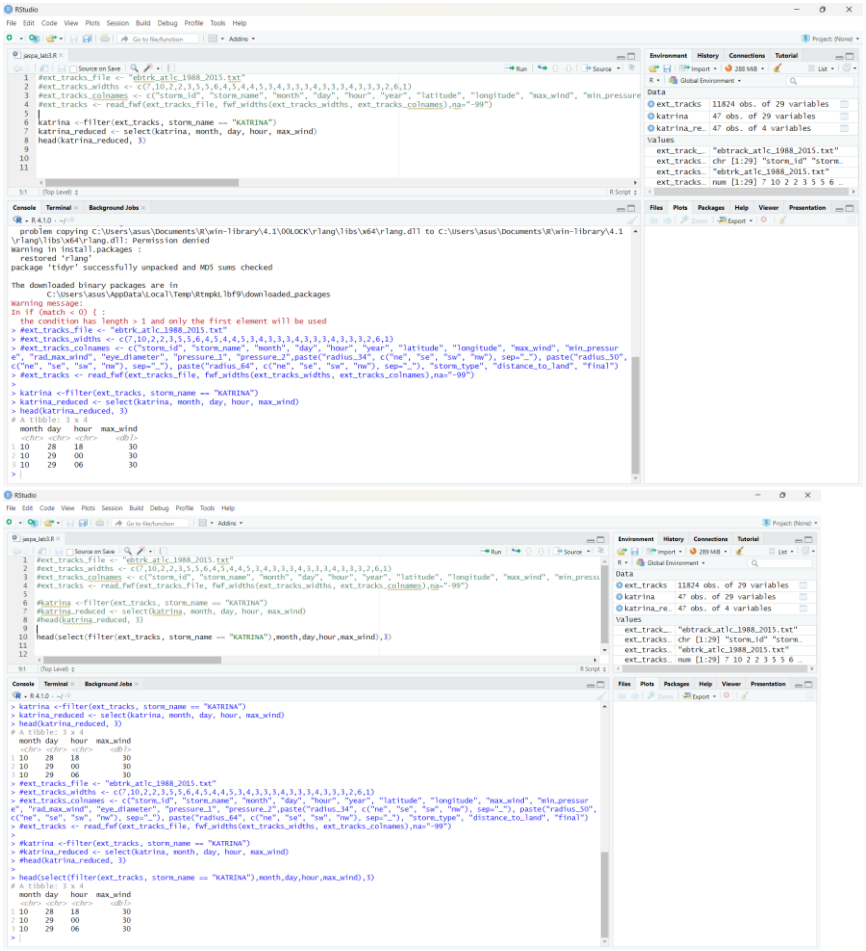
CMSC 124 - LAB

1.) Code



2.) Piping



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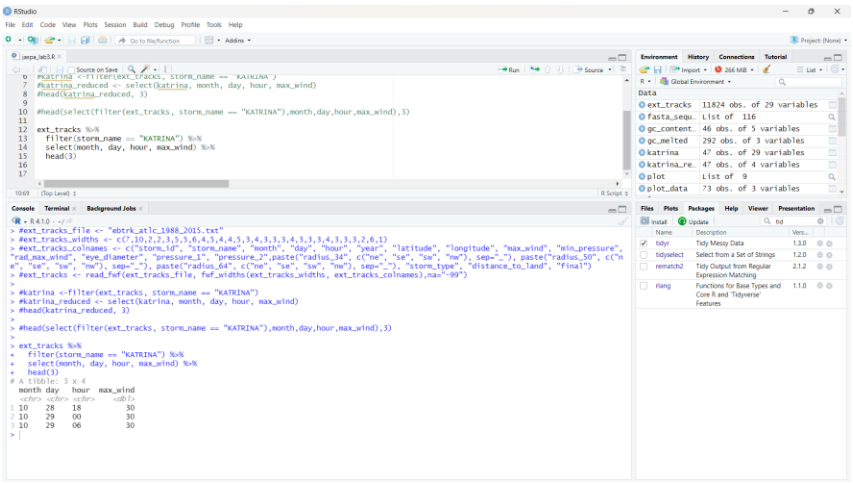
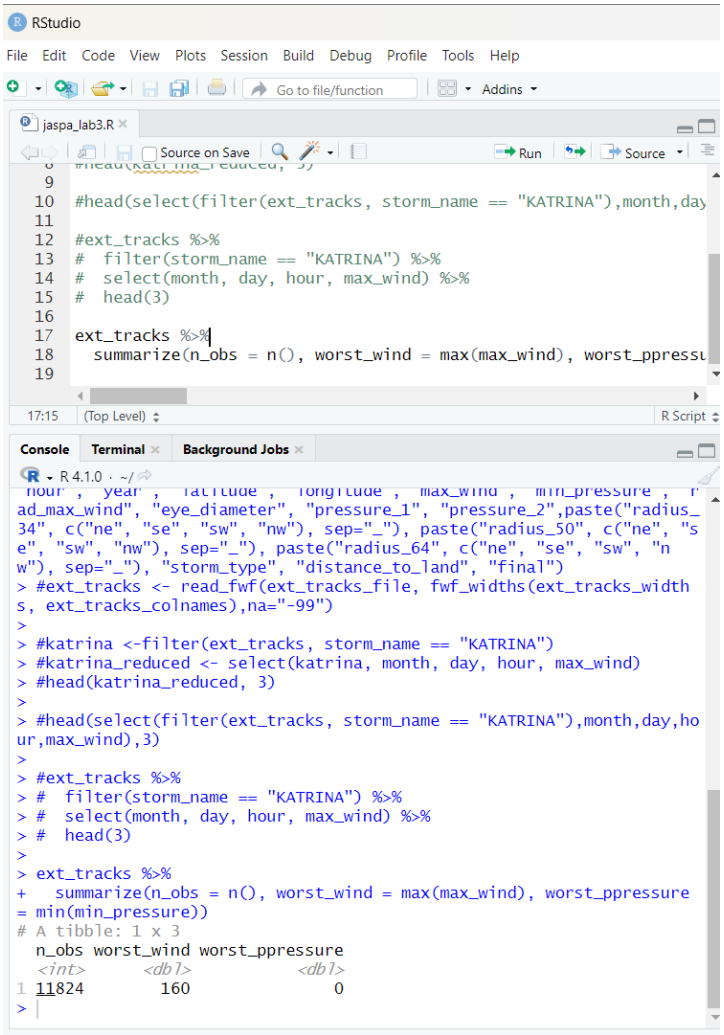


3.) Summarizing Data



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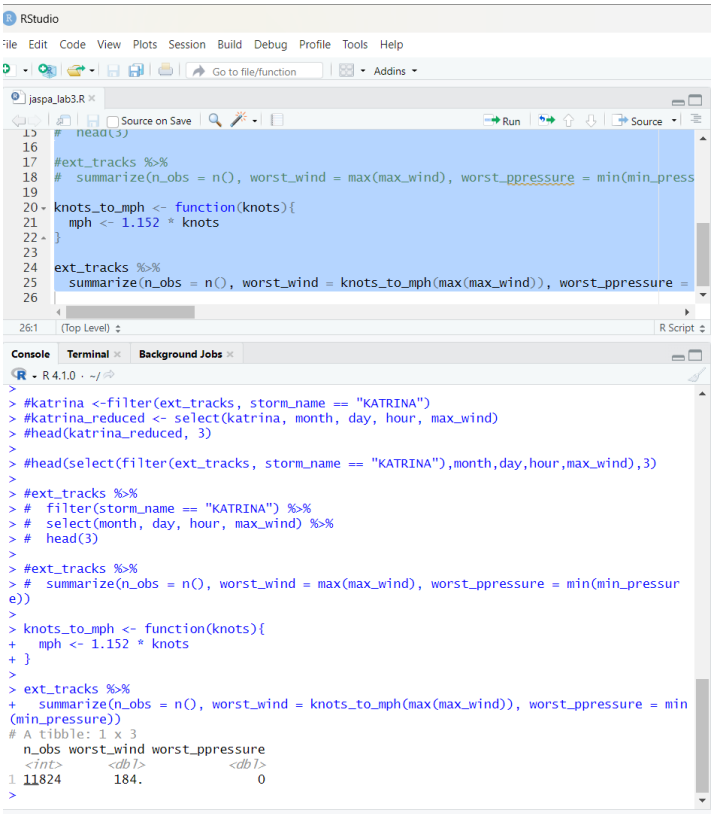

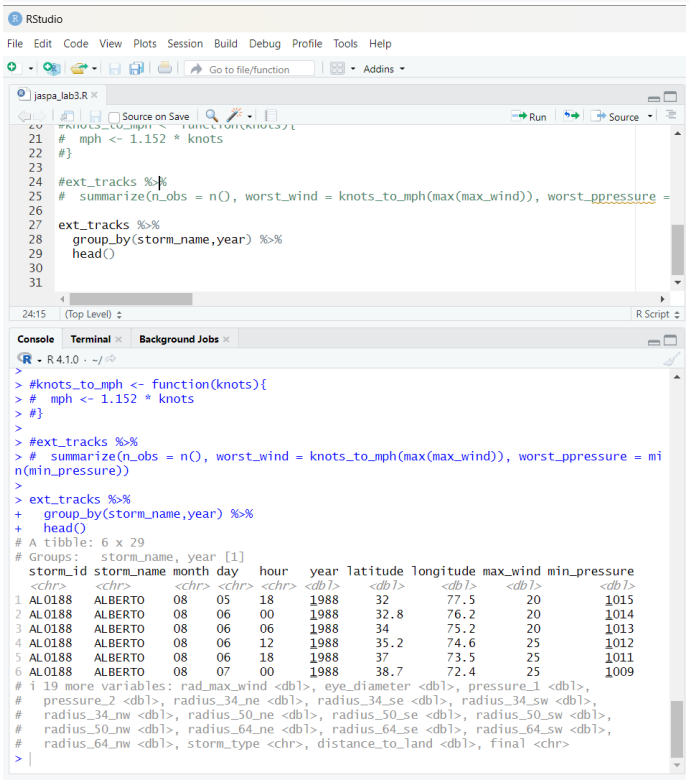

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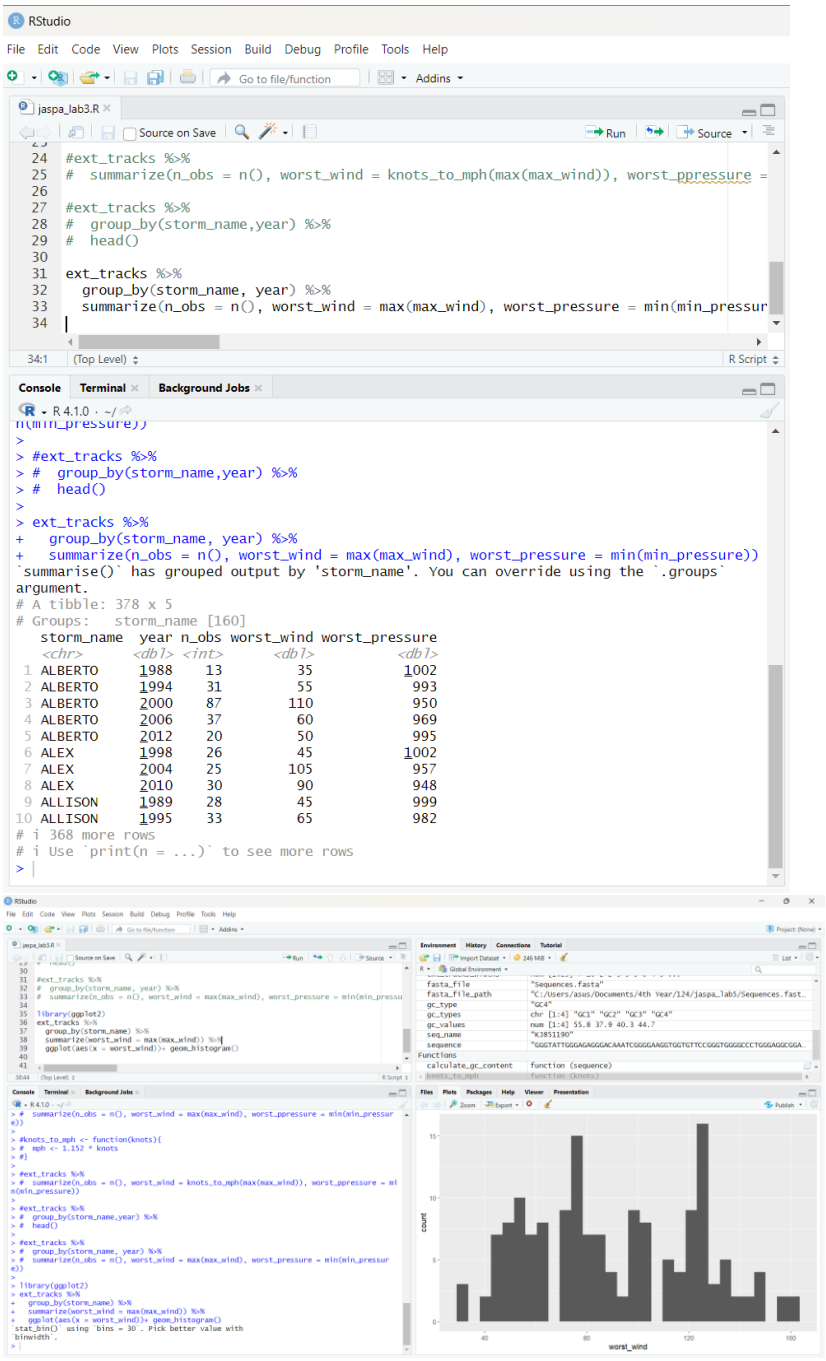

4.) Selecting and filtering data

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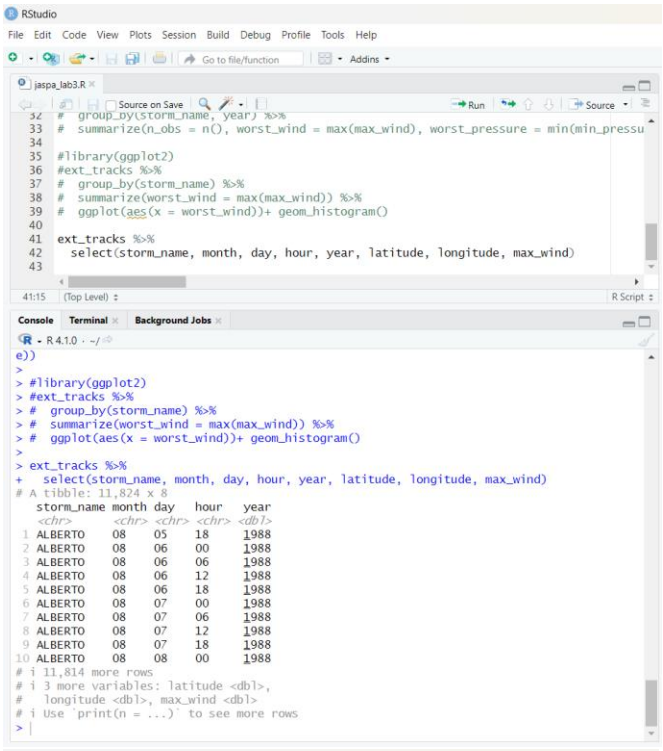

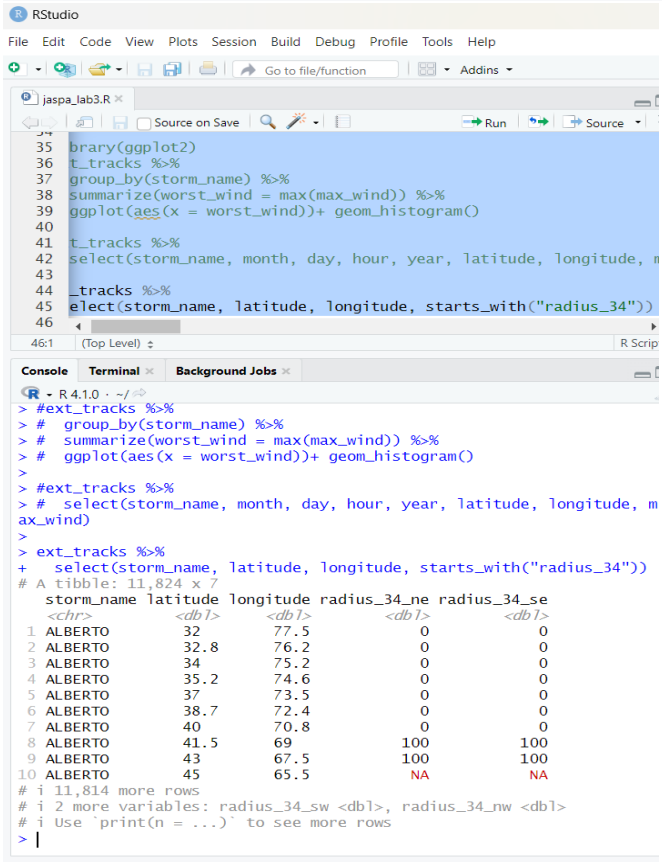

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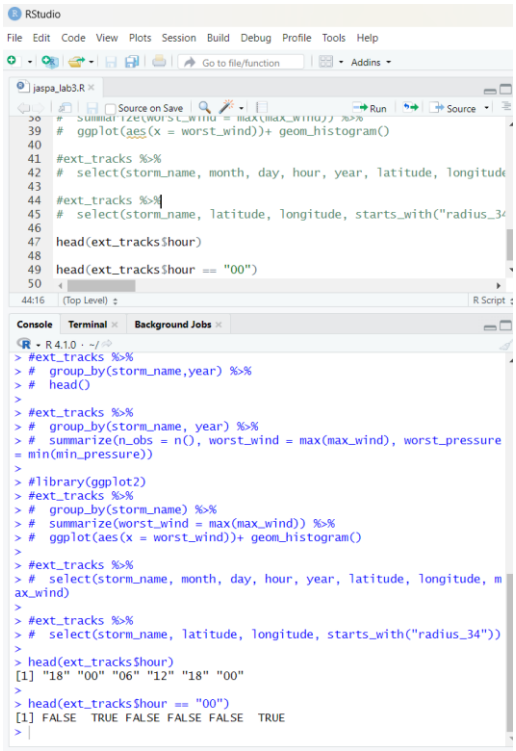

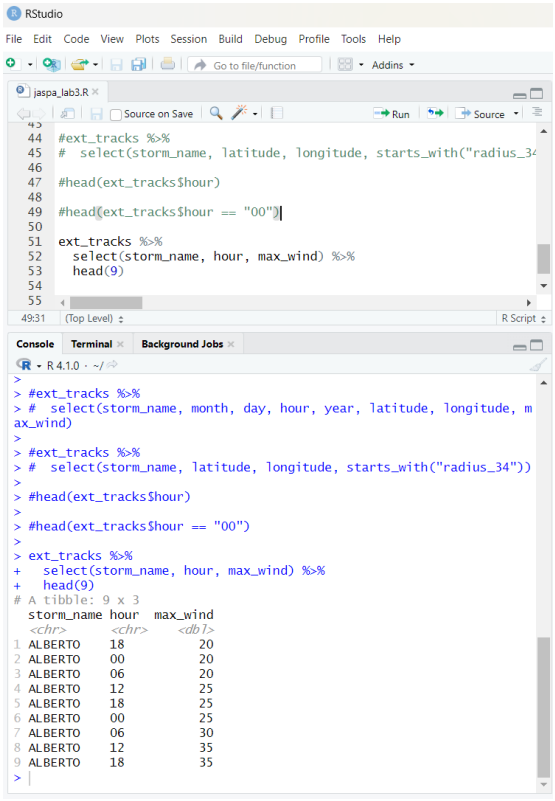

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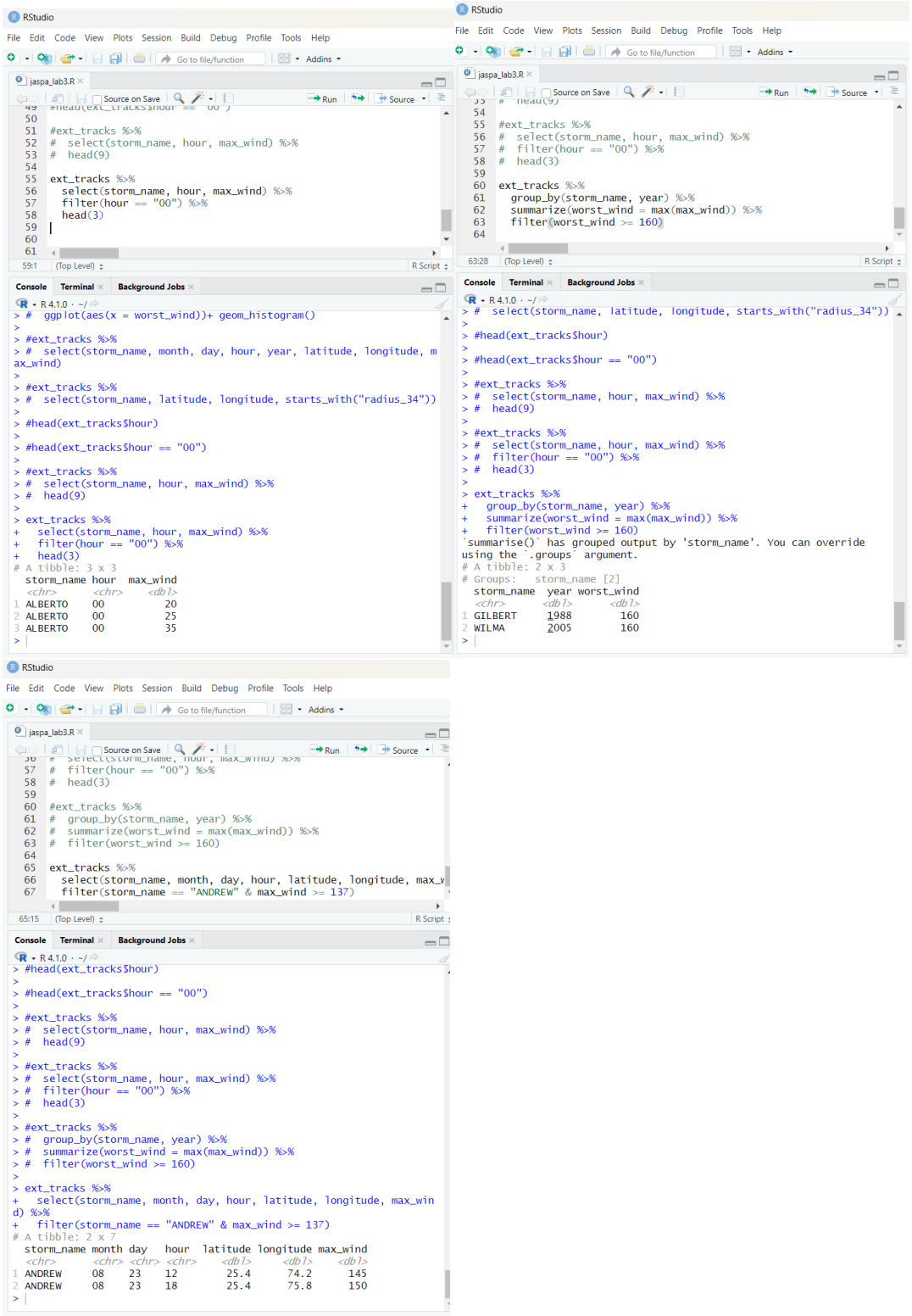

```
#ext_tracks %>%
#  select(storm_name, hour, max_wind) %>%
#  head(9)

ext_tracks %>%
  select(storm_name, hour, max_wind) %>%
  filter(hour == "00") %>%
  head(3)
```

```
> #  ggplot(aes(x = worst_wind))+ geom_histogram()
>
> #ext_tracks %>%
> #  select(storm_name, month, day, hour, year, latitude, longitude, max_wind)
>
> #ext_tracks %>%
> #  select(storm_name, latitude, longitude, starts_with("radius_34"))
>
> #head(ext_tracks$hour)
>
> #head(ext_tracks$hour == "00")
>
> #ext_tracks %>%
> #  select(storm_name, hour, max_wind) %>%
> #  head(9)
>
> ext_tracks %>%
+   select(storm_name, hour, max_wind) %>%
+   filter(hour == "00") %>%
+   head(3)
# A tibble: 3 x 3
  storm_name hour  max_wind
  <chr>      <chr>    <dbl>
1 ALBERTO    00          20
2 ALBERTO    00          25
3 ALBERTO    00          35
>
```

```
#ext_tracks %>%
#  select(storm_name, hour, max_wind) %>%
#  filter(hour == "00") %>%
#  head(3)

ext_tracks %>%
  group_by(storm_name, year) %>%
  summarize(worst_wind = max(max_wind)) %>%
  filter(worst_wind >= 160)
```

```
> #  select(storm_name, latitude, longitude, starts_with("radius_34"))
>
> #head(ext_tracks$hour)
>
> #head(ext_tracks$hour == "00")
>
> #ext_tracks %>%
> #  select(storm_name, hour, max_wind) %>%
> #  head(9)
>
> #ext_tracks %>%
> #  select(storm_name, hour, max_wind) %>%
> #  filter(hour == "00") %>%
> #  head(3)
>
> ext_tracks %>%
+   group_by(storm_name, year) %>%
+   summarize(worst_wind = max(max_wind)) %>%
+   filter(worst_wind >= 160)
`summarise()` has grouped output by 'storm_name'. You can override
using the `.groups` argument.
# A tibble: 2 x 3
# Groups:   storm_name [2]
  storm_name  year worst_wind
  <chr>      <dbl>      <dbl>
1 GILBERT     1988        160
2 WILMA       2005        160
>
```

```
#  filter(hour == "00") %>%
#  head(3)

#ext_tracks %>%
#  group_by(storm_name, year) %>%
#  summarize(worst_wind = max(max_wind)) %>%
#  filter(worst_wind >= 160)

ext_tracks %>%
  select(storm_name, month, day, hour, latitude, longitude, max_v
  filter(storm_name == "ANDREW" & max_wind >= 137)
```

```
> #head(ext_tracks$hour)
>
> #head(ext_tracks$hour == "00")
>
> #ext_tracks %>%
> #  select(storm_name, hour, max_wind) %>%
> #  head(9)
>
> #ext_tracks %>%
> #  select(storm_name, hour, max_wind) %>%
> #  filter(hour == "00") %>%
> #  head(3)
>
> #ext_tracks %>%
> #  group_by(storm_name, year) %>%
> #  summarize(worst_wind = max(max_wind)) %>%
> #  filter(worst_wind >= 160)
>
> ext_tracks %>%
+   select(storm_name, month, day, hour, latitude, longitude, max_wind) %>%
+   filter(storm_name == "ANDREW" & max_wind >= 137)
# A tibble: 2 x 7
  storm_name month day   hour  latitude longitude max_wind
  <chr>      <chr> <chr> <chr>    <dbl>     <dbl>    <dbl>
1 ANDREW     08    23    12        25.4      74.2      145
2 ANDREW     08    23    18        25.4      75.8      150
>
```

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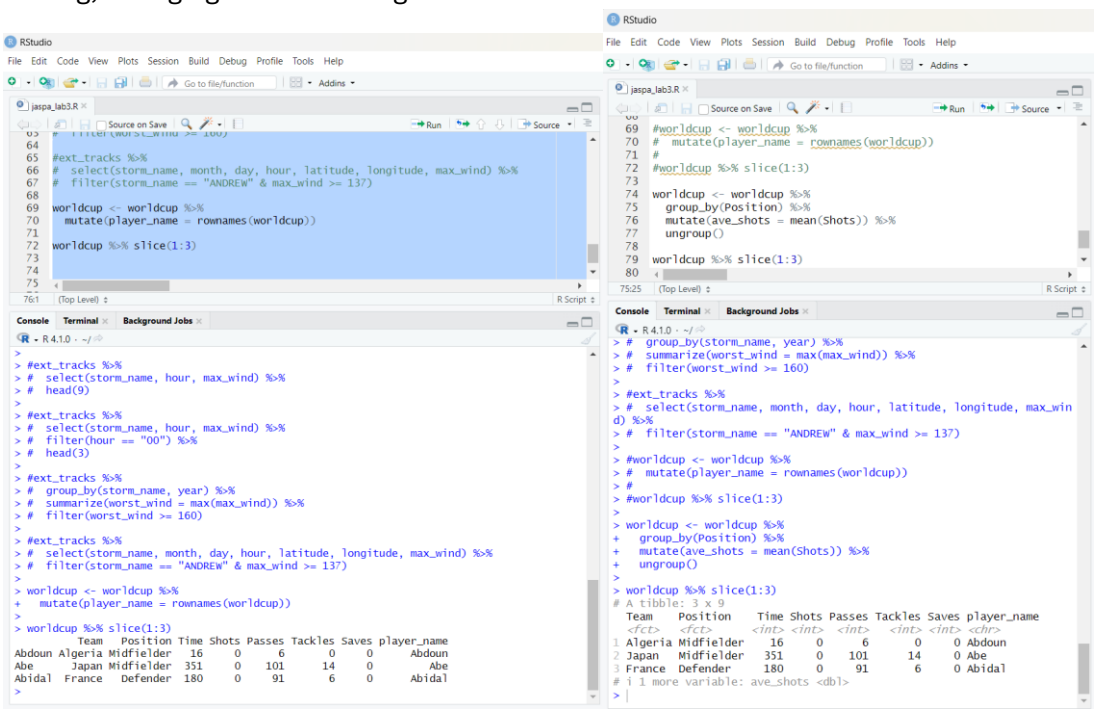
5.) Adding, changing and Renaming columns



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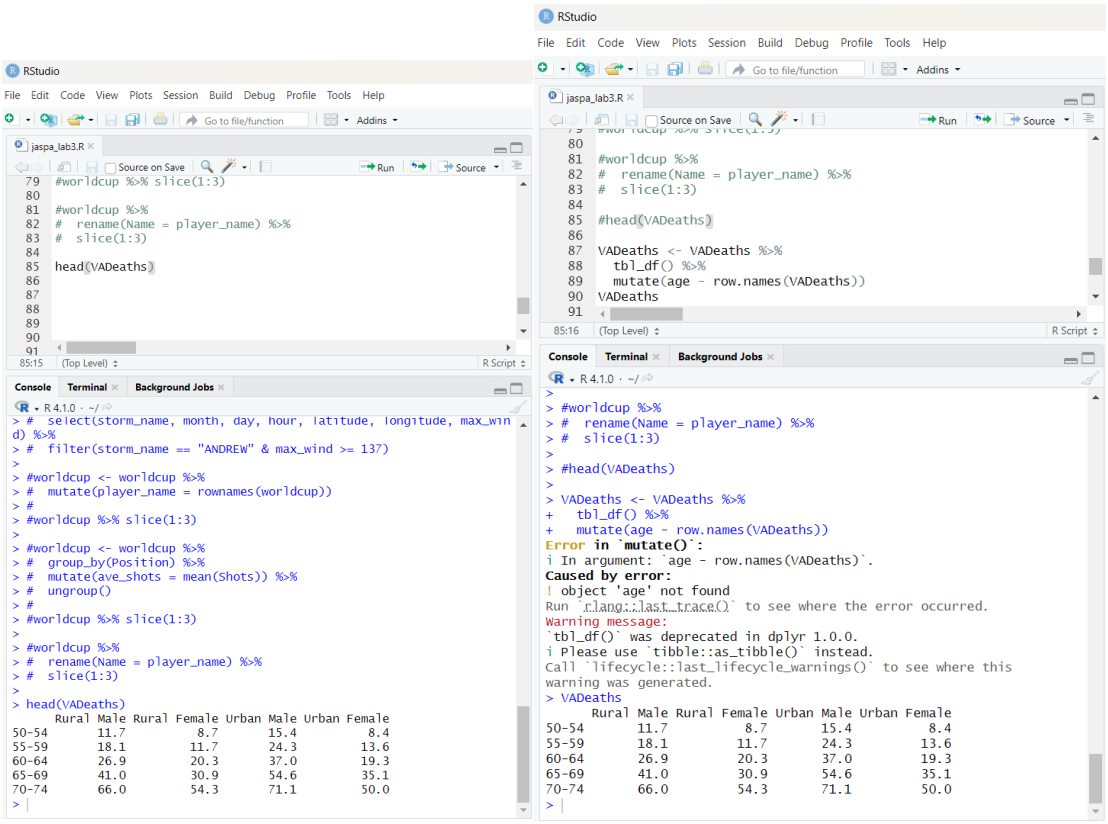
6.) Spreading and Gathering data



```
#worldcup %>% slice(1:3)

#worldcup %>%
#  rename(Name = player_name) %>%
#  slice(1:3)

head(VADeaths)
```

```
> #  select(storm_name, month, day, hour, latitude, longitude, max_wind) %>%
> #  filter(storm_name == "ANDREW" & max_wind >= 137)
>
> #worldcup <- worldcup %>%
> #  mutate(player_name = rownames(worldcup))
> #
> #worldcup %>% slice(1:3)
>
> #worldcup <- worldcup %>%
> #  group_by(Position) %>%
> #  mutate(ave_shots = mean(Shots)) %>%
> #  ungroup()
> #
> #worldcup %>% slice(1:3)
>
> #worldcup %>%
> #  rename(Name = player_name) %>%
> #  slice(1:3)
>
> head(VADeaths)
      Rural Male Rural Female Urban Male Urban Female
50-54       11.7          8.7       15.4          8.4
55-59       18.1         11.7       24.3         13.6
60-64       26.9         20.3       37.0         19.3
65-69       41.0         30.9       54.6         35.1
70-74       66.0         54.3       71.1         50.0
>
```

```
#worldcup %>%
#  rename(Name = player_name) %>%
#  slice(1:3)

#head(VADeaths)

VADeaths <- VADeaths %>%
  tbl_df() %>%
  mutate(age = row.names(VADeaths))
VADeaths
```

```
>
> #worldcup %>%
> #  rename(Name = player_name) %>%
> #  slice(1:3)
>
> #head(VADeaths)
>
> VADeaths <- VADeaths %>%
+   tbl_df() %>%
+   mutate(age = row.names(VADeaths))
Error in `mutate()`:
i In argument: `age = row.names(VADeaths)`.
Caused by error:
! object 'age' not found
Run `rlang::last_trace()` to see where the error occurred.
Warning message:
`tbl_df()` was deprecated in dplyr 1.0.0.
i Please use `tibble::as_tibble()` instead.
Call `lifecycle::last_lifecycle_warnings()` to see where this warning was generated.
> VADeaths
      Rural Male Rural Female Urban Male Urban Female
50-54       11.7          8.7       15.4          8.4
55-59       18.1         11.7       24.3         13.6
60-64       26.9         20.3       37.0         19.3
65-69       41.0         30.9       54.6         35.1
70-74       66.0         54.3       71.1         50.0
>
```

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