

Lab Report: Bike-Sharing Data Analysis

MA 575 Fall 2021 - C3 Team #2

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0.1 Preprocessing

0.2 Visualization

0.2.1 Pairwise Relationships

Group 1: (Mainly) Environmental

Predictors (all environmental variables plus date):

- `dteday` (date)
- `weathersit` (weather type)
- `temp` (measured temperature)
- `atemp` (feeling temperature)
- `windspeed` (wind speed)
- `hum` (humidity)

Response:

- `cnt` (daily total count)
- `registered` (daily registered count)
- `casual` (daily casual count)

Group 2: Seasonal

Predictors (all seasonal variables):

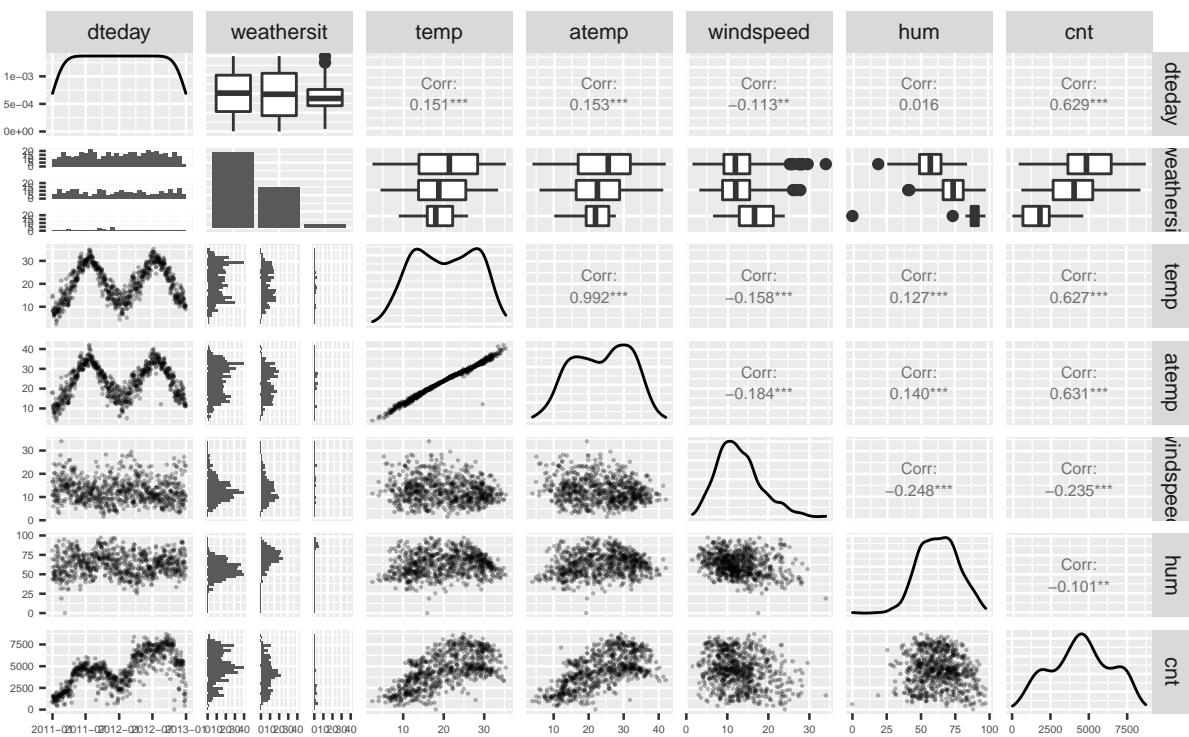
- `dteday` (date)
- `season` (season)
- `yr` (year)
- `mnth` (month)
- `holiday` (holiday or not)
- `weekday` (day of the week)
- `workingday` (working day or not)

Response:

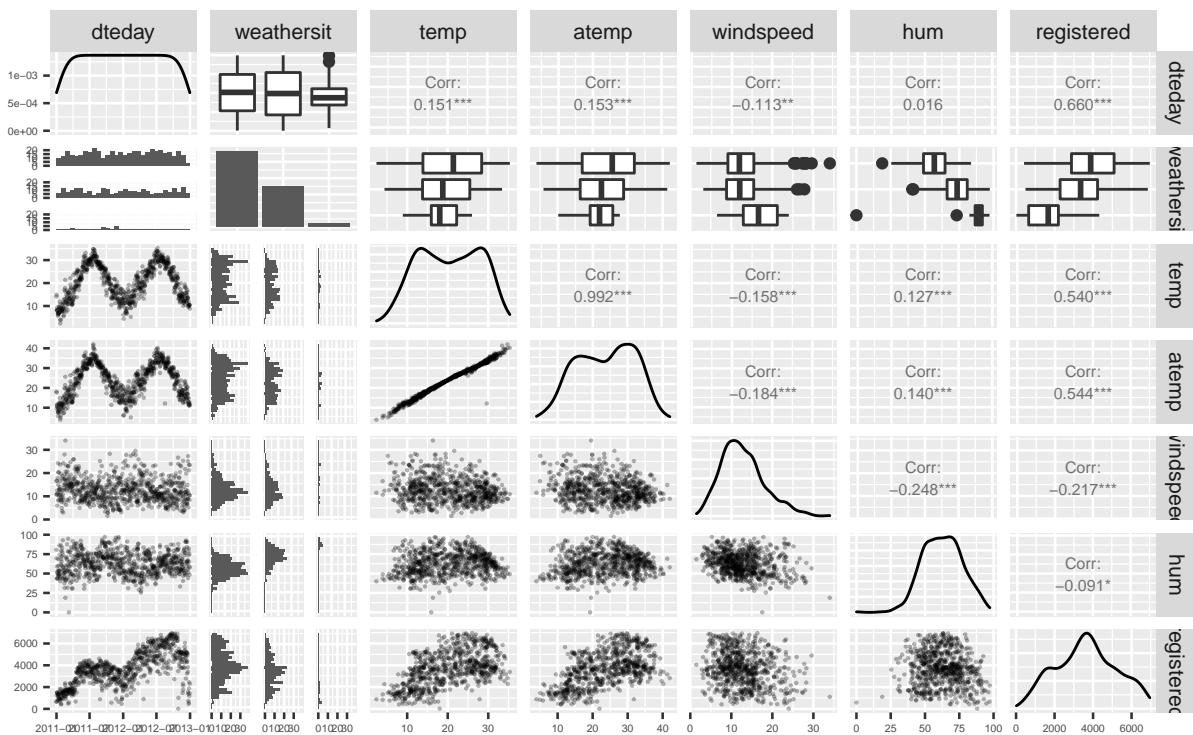
- `cnt` (daily total count)
- `registered` (daily registered count)
- `casual` (daily casual count)

0.2.1.1 Pairs Plot for Group 1 (Mainly Environmental)

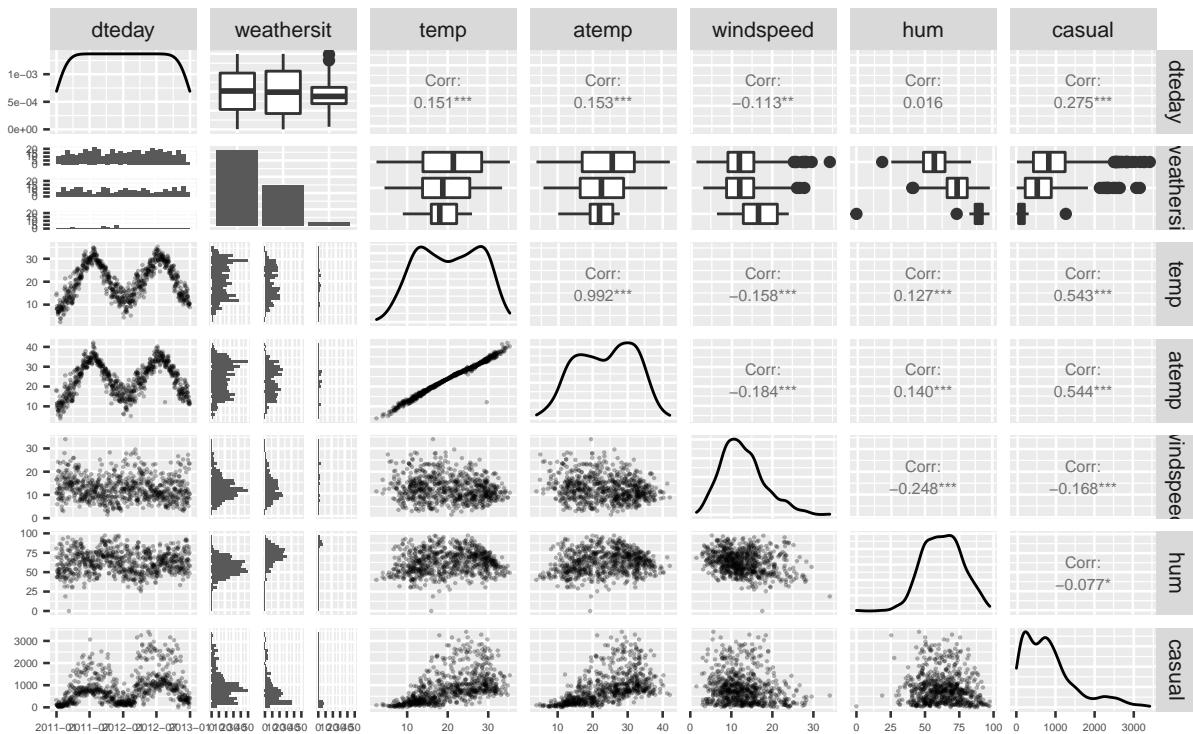
Pairs Plots (Group 1)
Response Variable (see last row & columnn): cnt



Pairs Plots (Group 1)
 Response Variable (see last row & column): registered

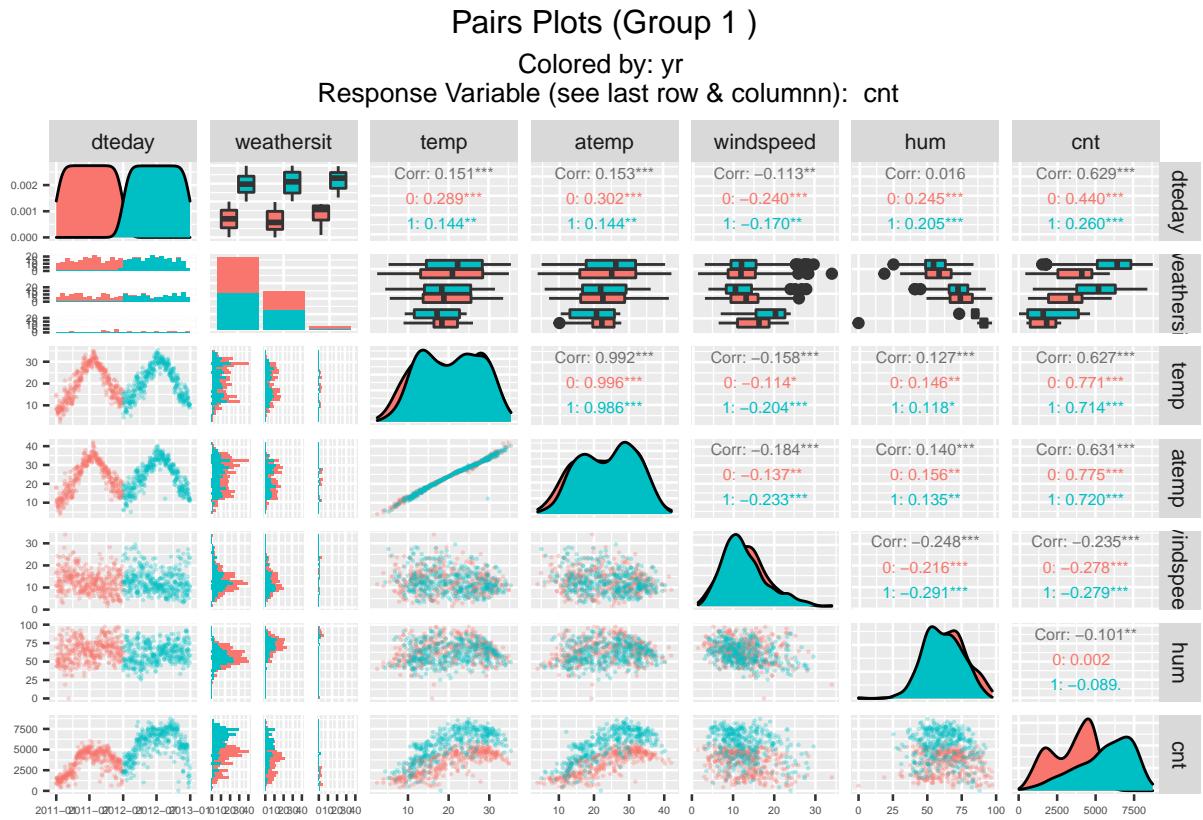


Pairs Plots (Group 1)
 Response Variable (see last row & column): casual



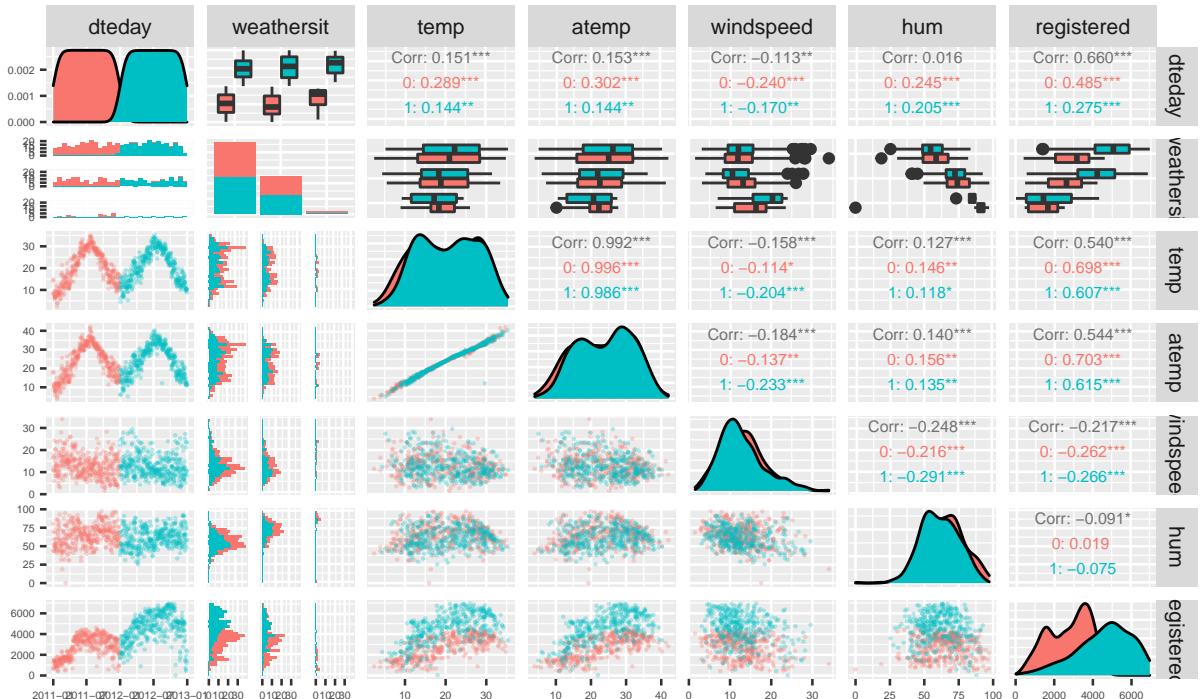
Observations: - registered: quadratic in temp - casual: linear in temp

0.2.1.2 Pairs Plot for Group 1 (Mainly Environmental) (Colored by Year)

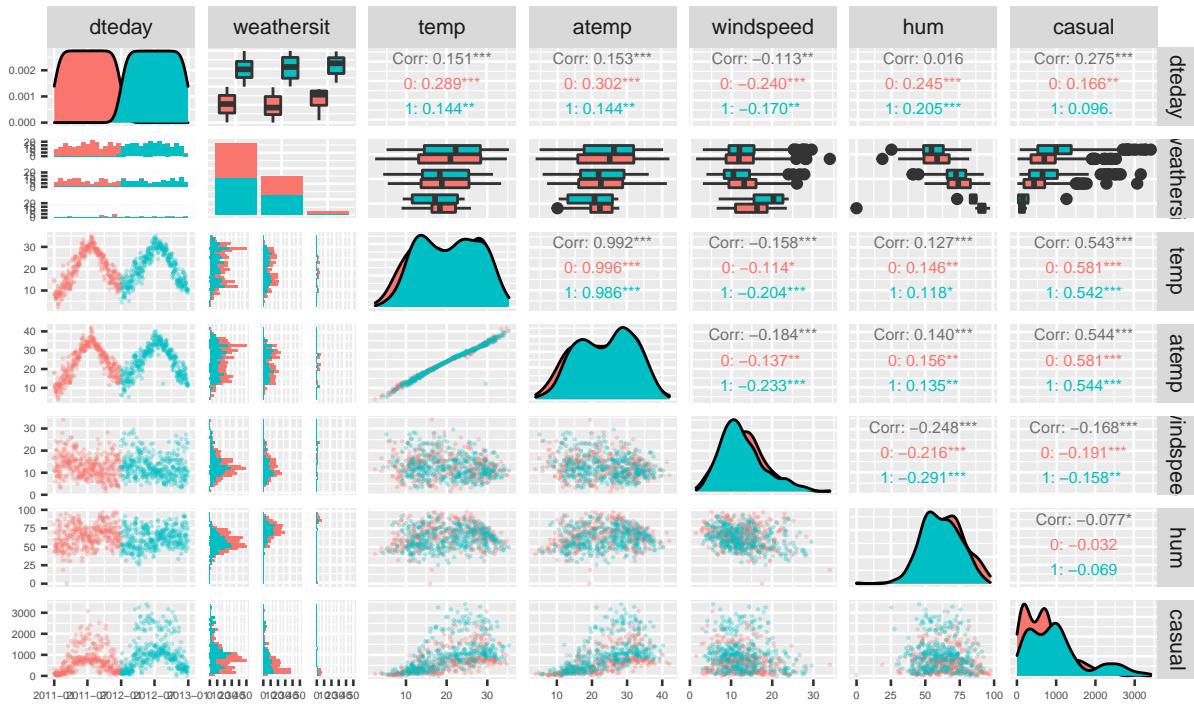


Pairs Plots (Group 1)

Colored by: yr
Response Variable (see last row & columnn): registered



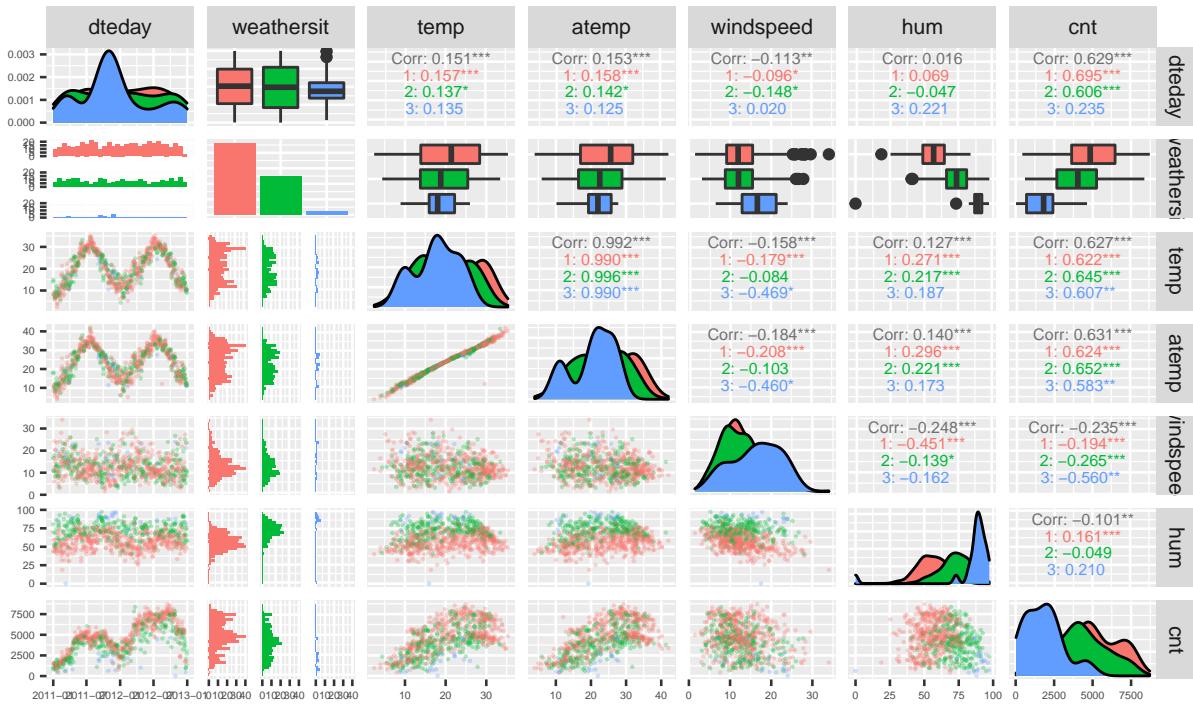
Pairs Plots (Group 1)
 Colored by: yr
 Response Variable (see last row & column): casual



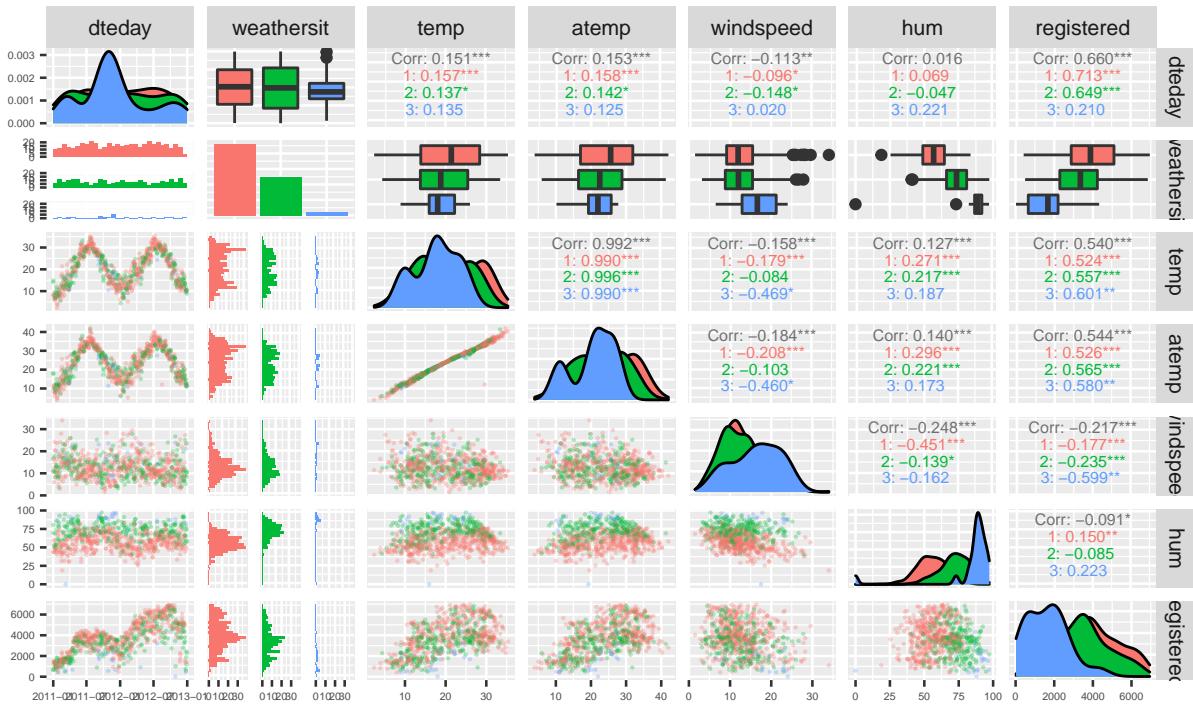
Observations: - registered: sensitive to yr - casual: less sensitive to yr

0.2.1.3 Pairs Plot for Group 1 (Mainly Environmental) (Colored by Weather Type)

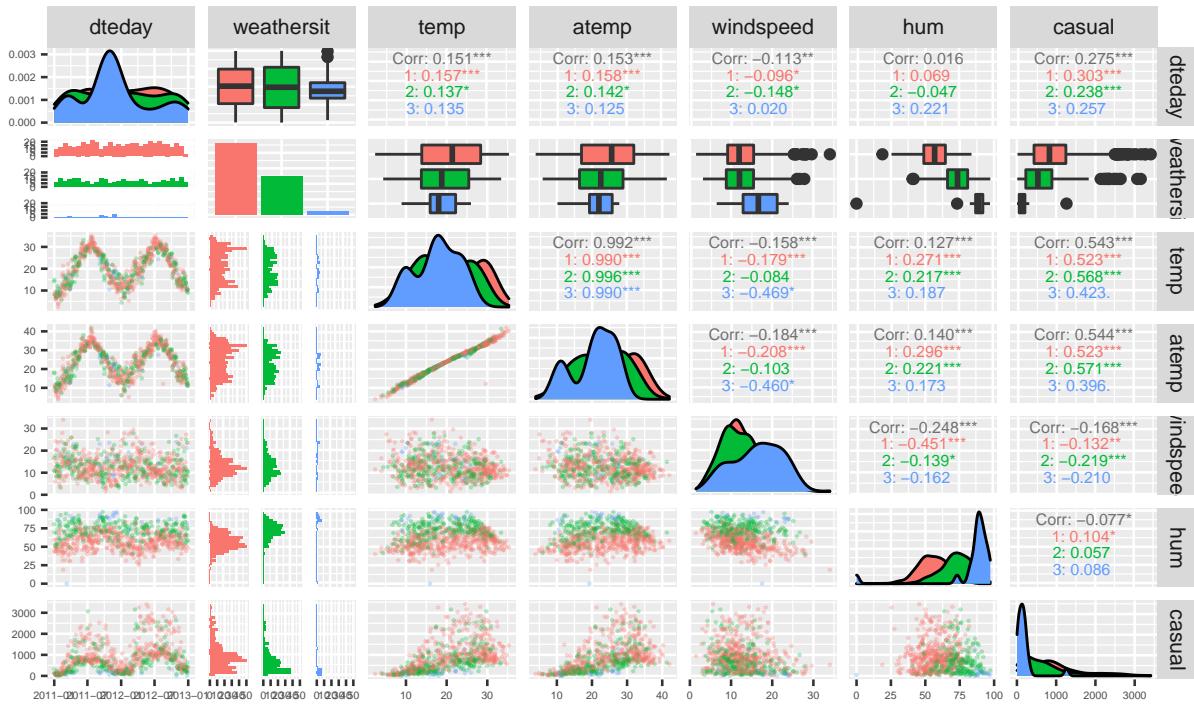
Pairs Plots (Group 1)
 Colored by: weathersit
 Response Variable (see last row & columnn): cnt



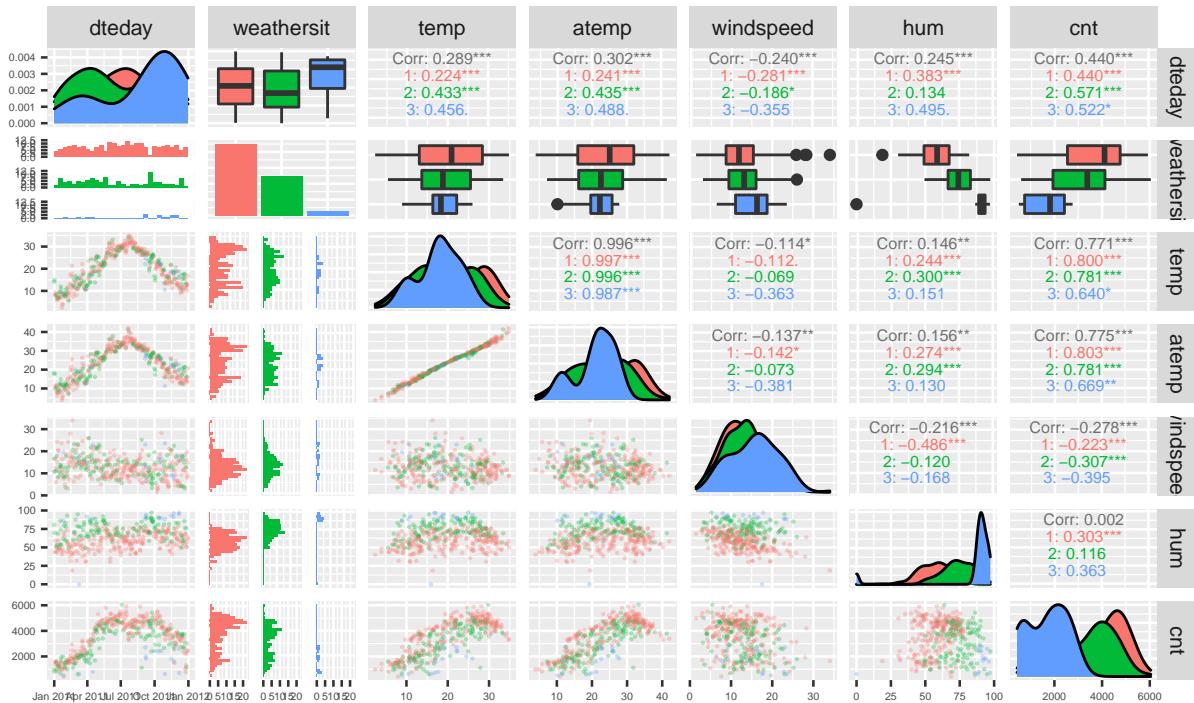
Pairs Plots (Group 1)
 Colored by: weathersit
 Response Variable (see last row & columnn): registered



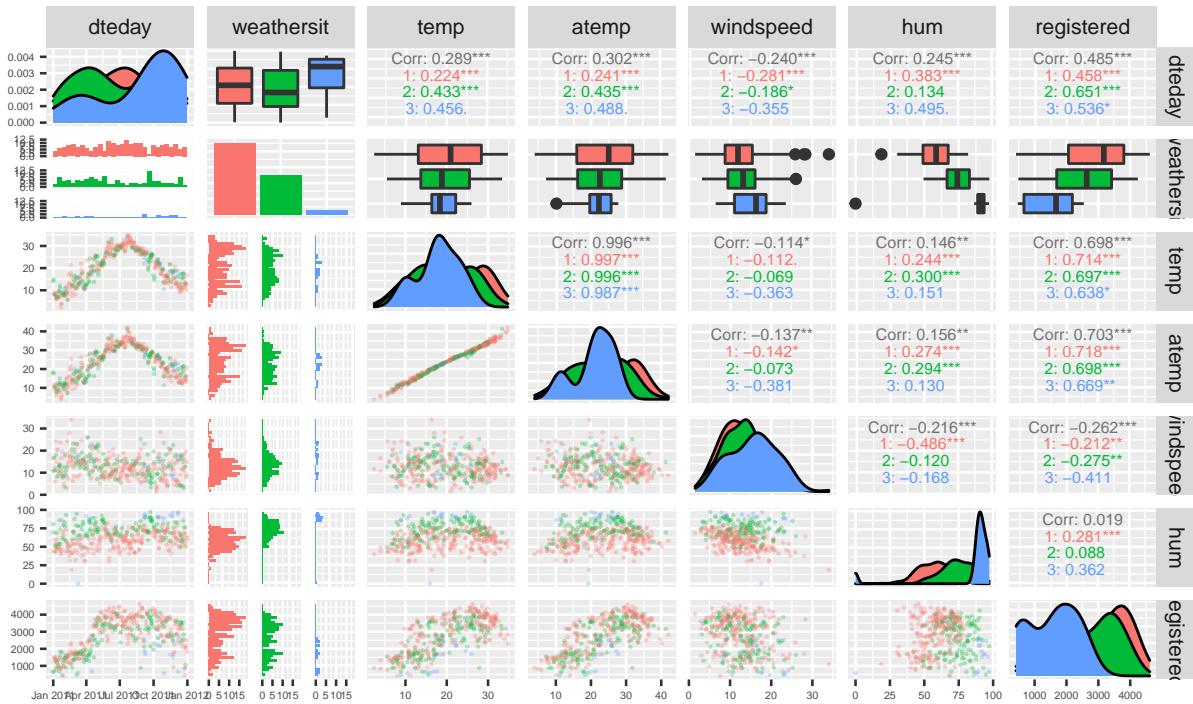
Pairs Plots (Group 1)
 Colored by: weathersit
 Response Variable (see last row & columnn): casual



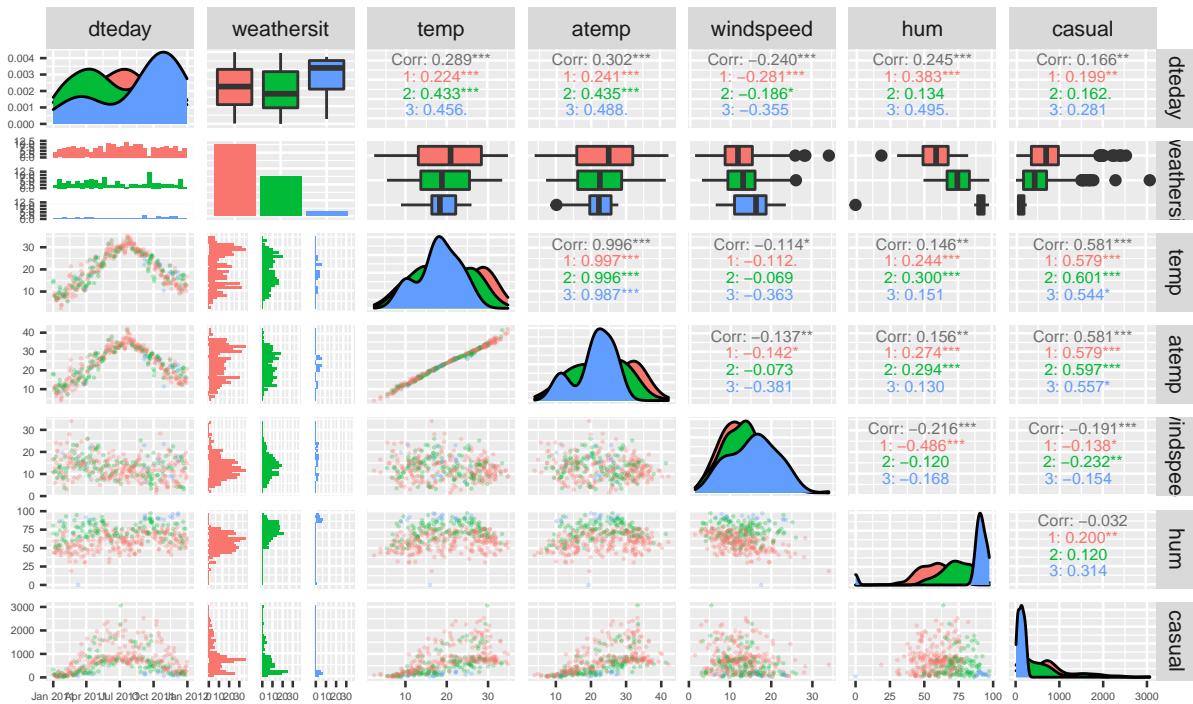
Pairs Plots (Group 1)
 Colored by: weathersit
 Response Variable (see last row & columnn): cnt



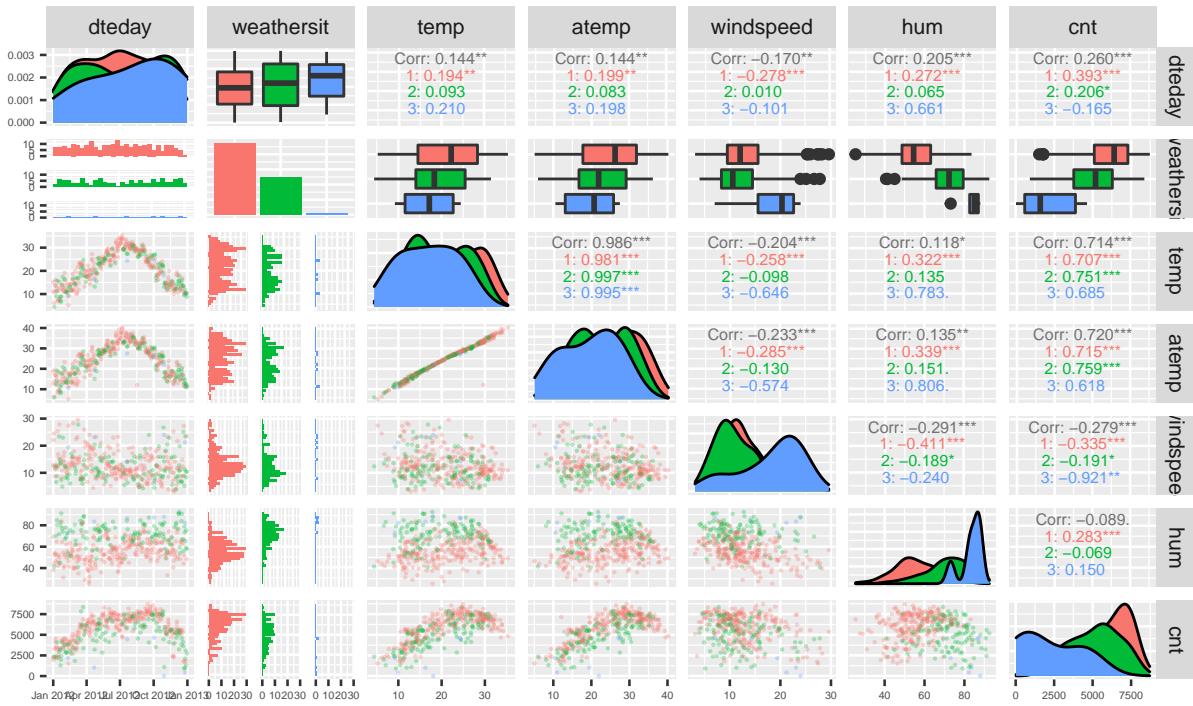
Pairs Plots (Group 1)
 Colored by: weathersit
 Response Variable (see last row & column): registered



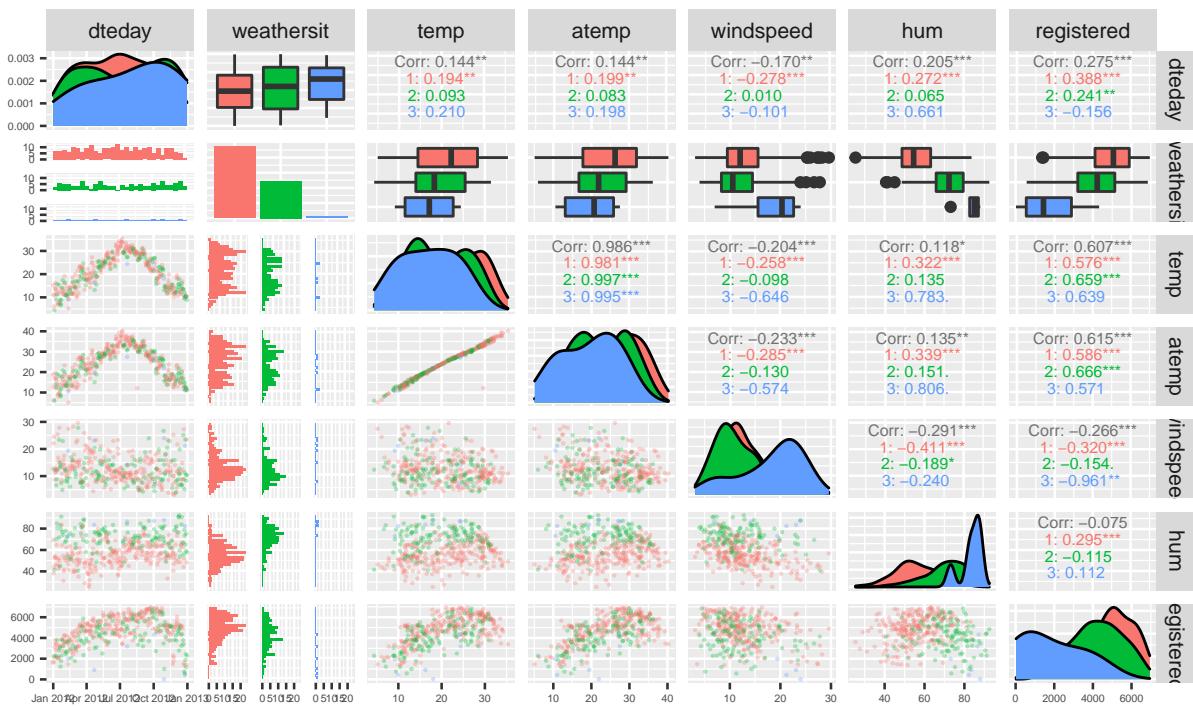
Pairs Plots (Group 1)
 Colored by: weathersit
 Response Variable (see last row & column): casual



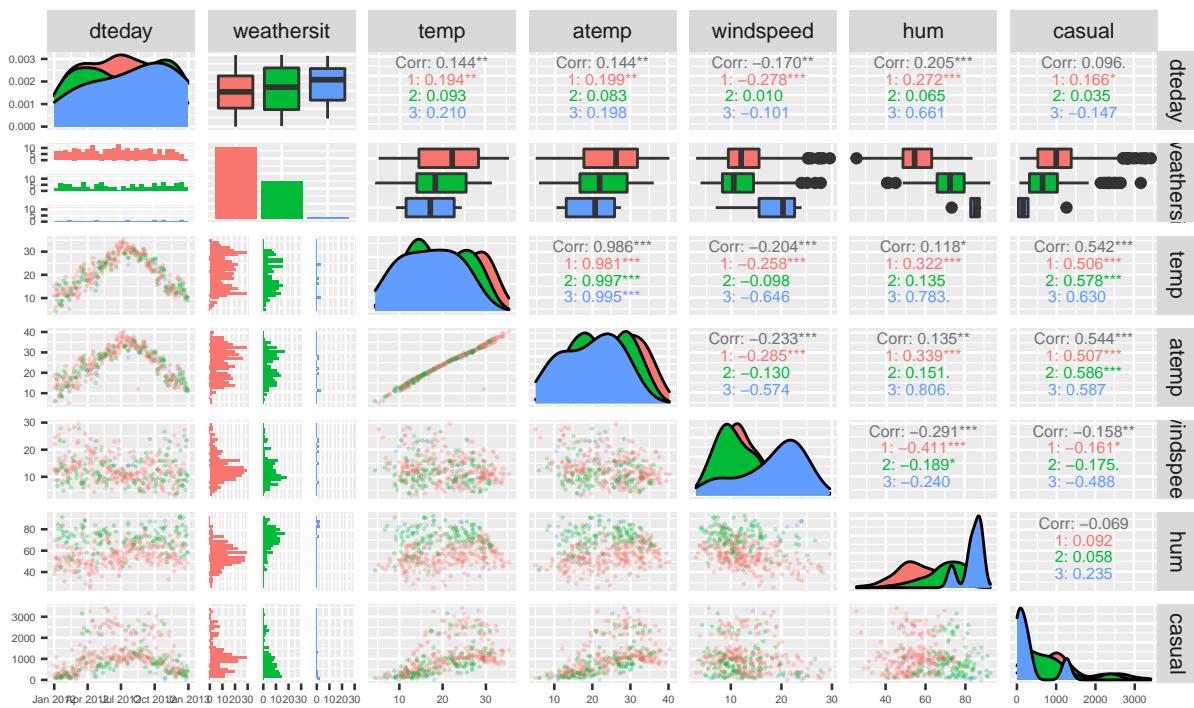
Pairs Plots (Group 1)
 Colored by: weathersit
 Response Variable (see last row & columnn): cnt



Pairs Plots (Group 1)
 Colored by: weathersit
 Response Variable (see last row & columnn): registered

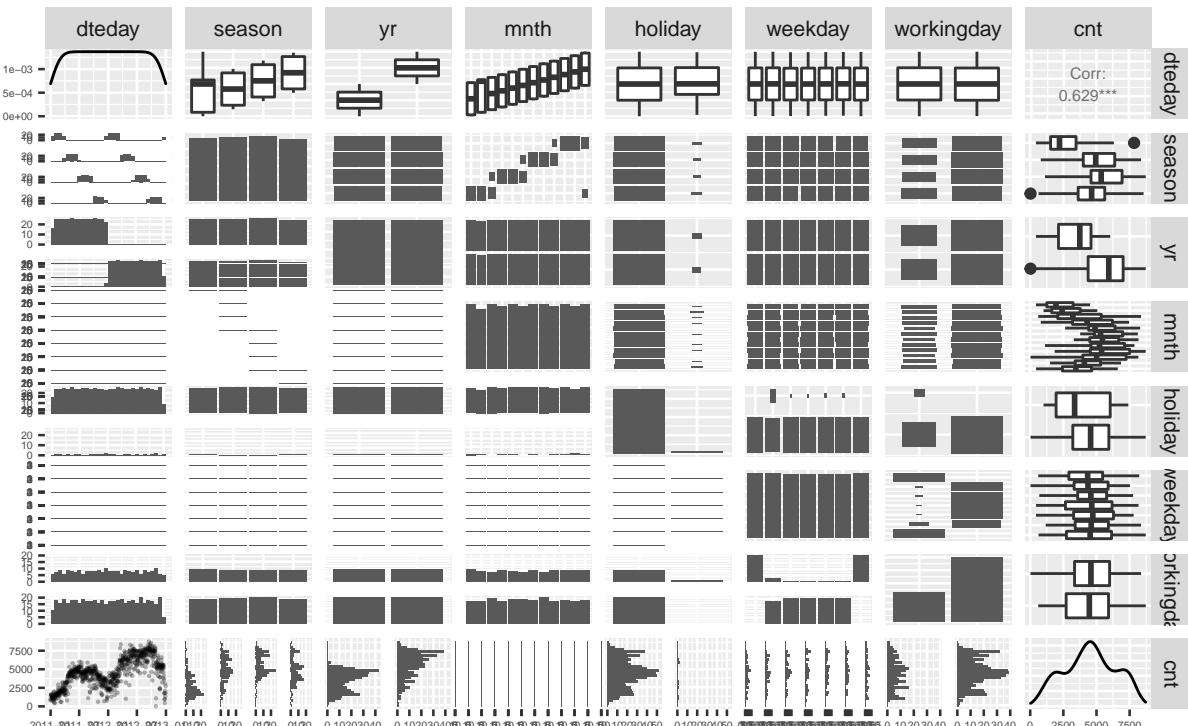


Pairs Plots (Group 1)
 Colored by: weathersit
 Response Variable (see last row & column): casual

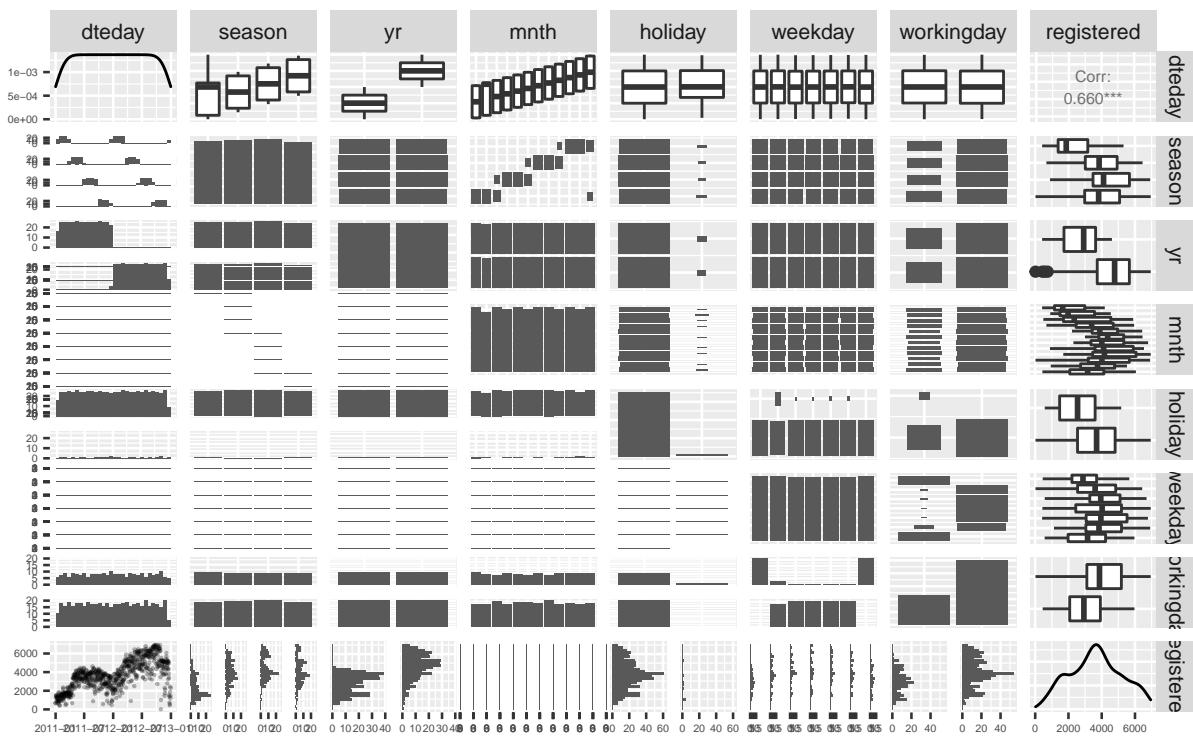


0.2.1.4 Pairs Plot for Group 2 (Seasonal)

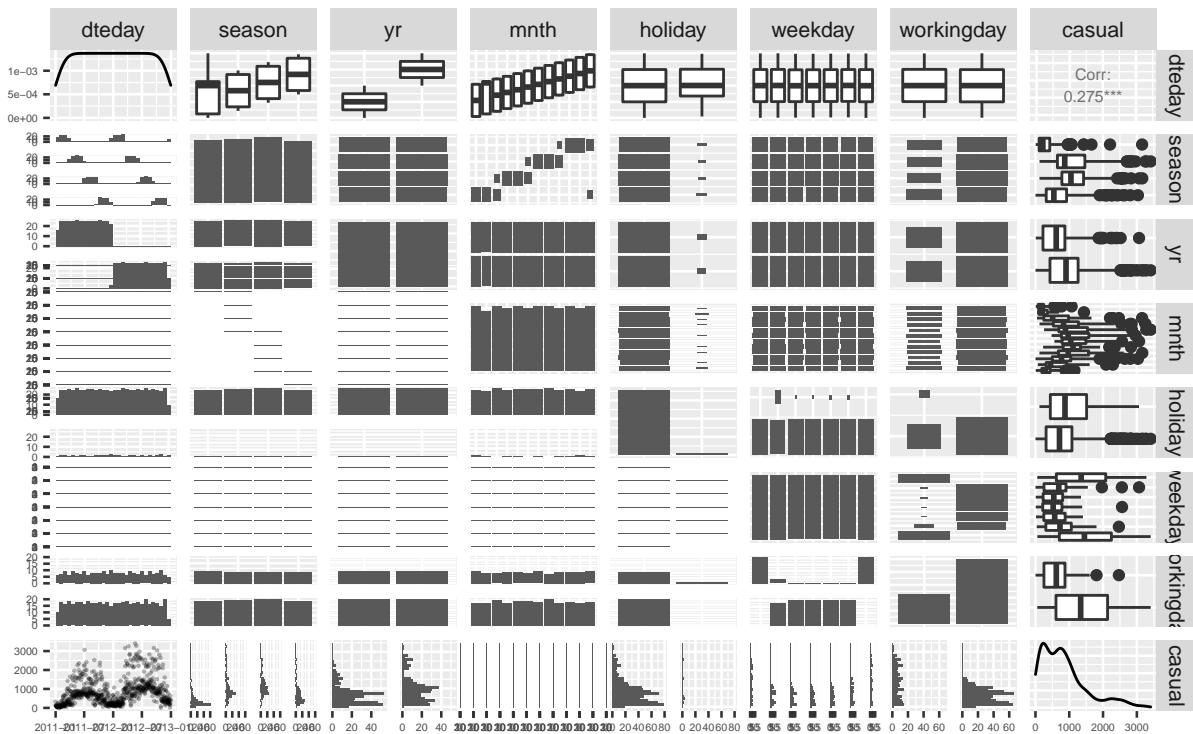
Pairs Plots (Group 2)
 Response Variable (see last row & column): cnt



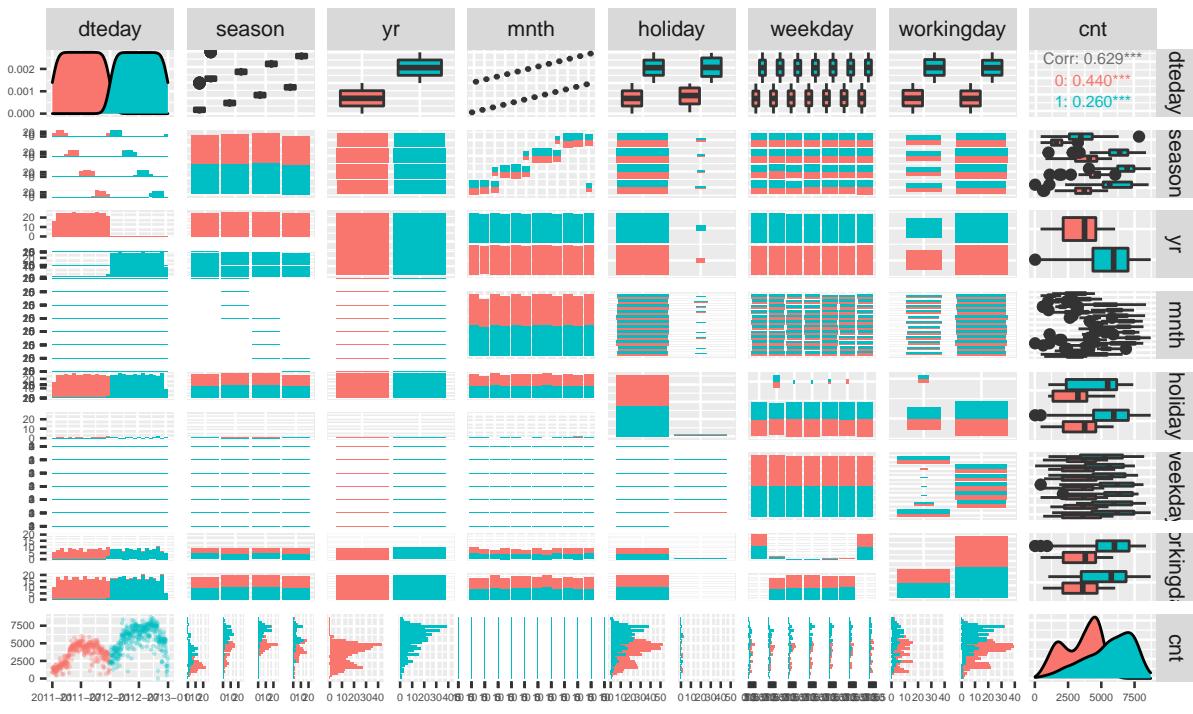
Pairs Plots (Group 2)
Response Variable (see last row & columnn): registered



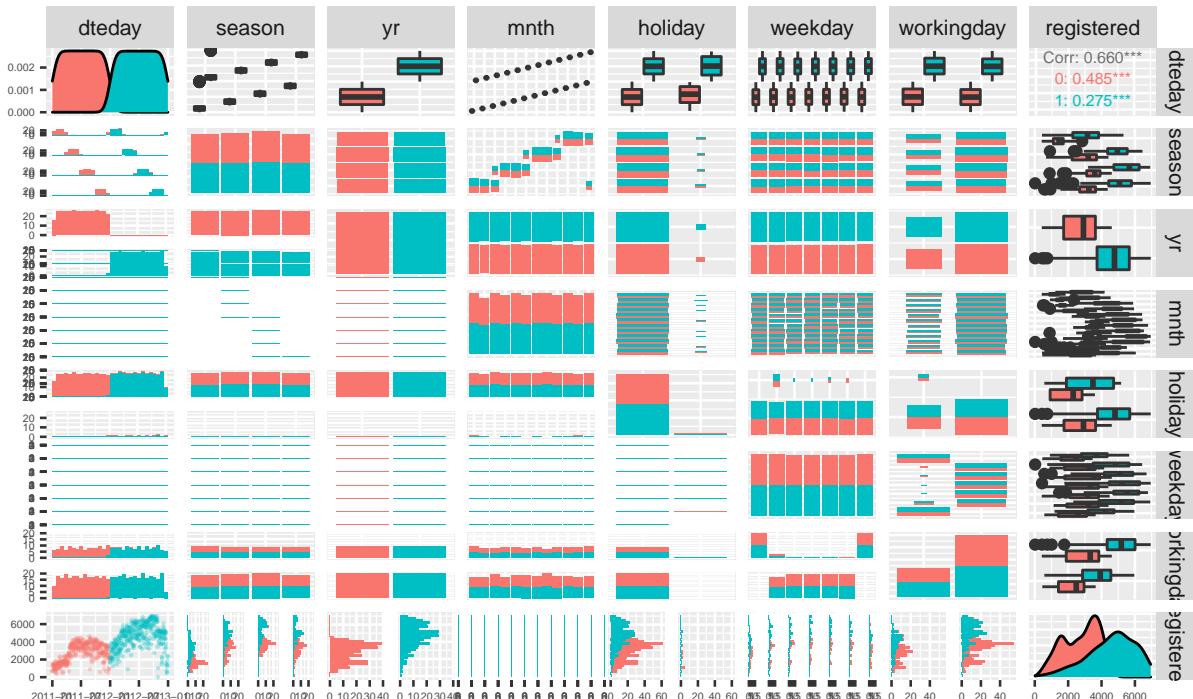
Pairs Plots (Group 2)
Response Variable (see last row & columnn): casual



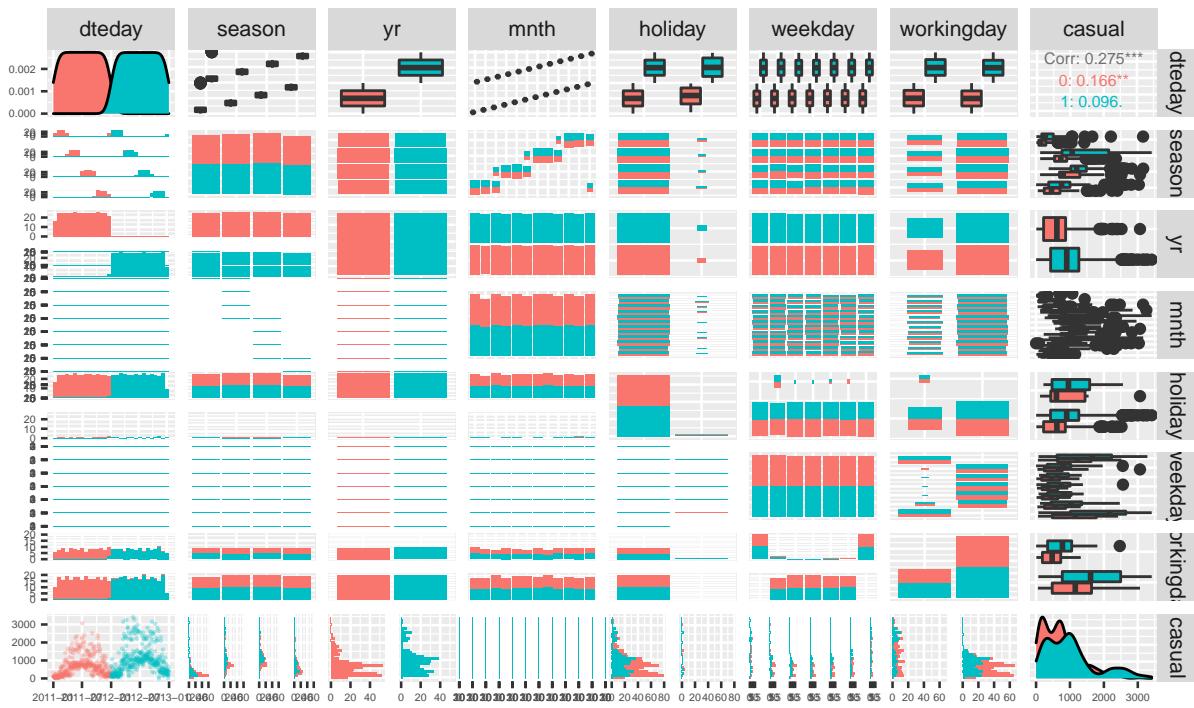
Pairs Plots (Group 2)
 Colored by: yr
 Response Variable (see last row & columnn): cnt



Pairs Plots (Group 2)
 Colored by: yr
 Response Variable (see last row & columnn): registered



Pairs Plots (Group 2)
Colored by: yr
Response Variable (see last row & column): casual



Observations:

- casual: workingday seems significant
- registered: workingday seems less significant