

ETF5922 & ETX2250

Assignment Project Exam Help

Data Visualisation
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and Analytics
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R packages and the installation

- From CRAN: <https://cran.r-project.org/web/packages/ggcorrplot/index.html>

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"ggcorrplot: Visualization of a Correlation Matrix using 'ggplot2'

The 'ggcorrplot' package can be used to visualize easily a correlation matrix using 'ggplot2'. It provides a solution for reordering the correlation matrix and displays the significance level on the plot. It also includes a function for computing a matrix of correlation p-values.

- `install.packages('ggcorrplot',lib='.', verbose=TRUE)`

Sub setting of Data

- In the previous classes we always looked the whole data-set. This is a first good start, but to narrow down patterns in the data, sub setting helps.
- One command is filter:

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```
countries %>%
  filter(Year==2009) %>%
  select(Name, GDP, laborrate, healthexp, infmortality) %>%
  head()
```

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Matching Data across data frames

- In business settings, data is spread across many databases and system.
- Example: Lets say with a table with 3 band players and 3 Members. As you will notice, it is not a perfect match:

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band_members		band_instruments	
name	band	name	plays
Mick	Stones	John	guitar
John	Beatles	Paul	bass
Paul	Beatles	Keith	guitar



Inner Join

- Only keep matching rows

band_members

name	band
------	------

Mick	Stones
------	--------

John	Beatles
------	---------

Paul	Beatles
------	---------

band_instruments

name	plays
------	-------

John	guitar
------	--------

Paul	bass
------	------

Keith	guitar
-------	--------

band_members <-> inner_join_band_instruments, by='name')

name	band	plays
------	------	-------

John	Beatles	guitar
------	---------	--------

Paul	Beatles	bass
------	---------	------

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Left (Outer) Join

- Keep all rows on the left, add the one you can add on the right

band_members

name	band
Mick	Stones
John	Beatles
Paul	Beatles

band_instruments

name	plays
John	guitar
Paul	bass
Keith	guitar

band_members >#> left_join(band_instruments, by='name')

name	band	plays
Mick	Stones	NA
John	Beatles	guitar
Paul	Beatles	bass

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Right (Outer) Join

- Keep all rows on the right, add the one you can add on the left

band_members	
name	band
Mick	Stones
John	Beatles
Paul	Beatles

band_instruments	
name	plays
John	guitar
Paul	bass
Keith	guitar

band_members \$>> right_join(band_instruments, by='name')

name band plays

John Beatles guitar

Paul Beatles bass

Keith NA guitar

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Full (Outer) Join

- Keep all rows on the right, add the one you can add on the left

band_members	
name	band
Mick	Stones
John	Beatles
Paul	Beatles

band_instruments	
name	plays
John	guitar
Paul	bass
Keith	guitar

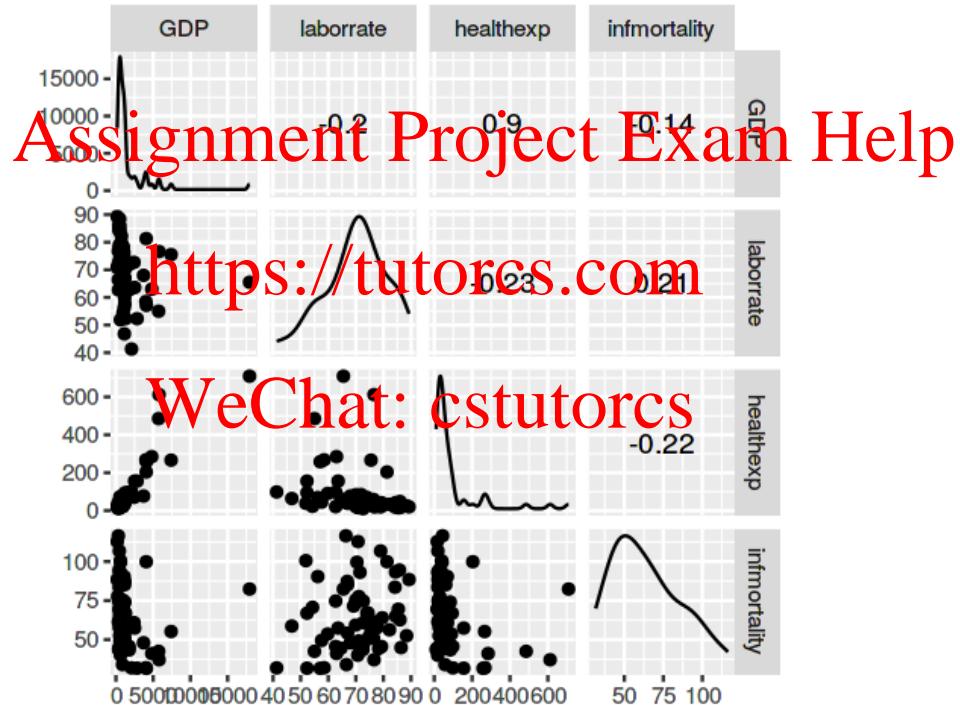
band_members %>% full_join(band_instruments, by='name')		
name	band	plays
Mick	Stones	NA
John	Beatles	guitar
Paul	Beatles	bass
Keith	NA	guitar

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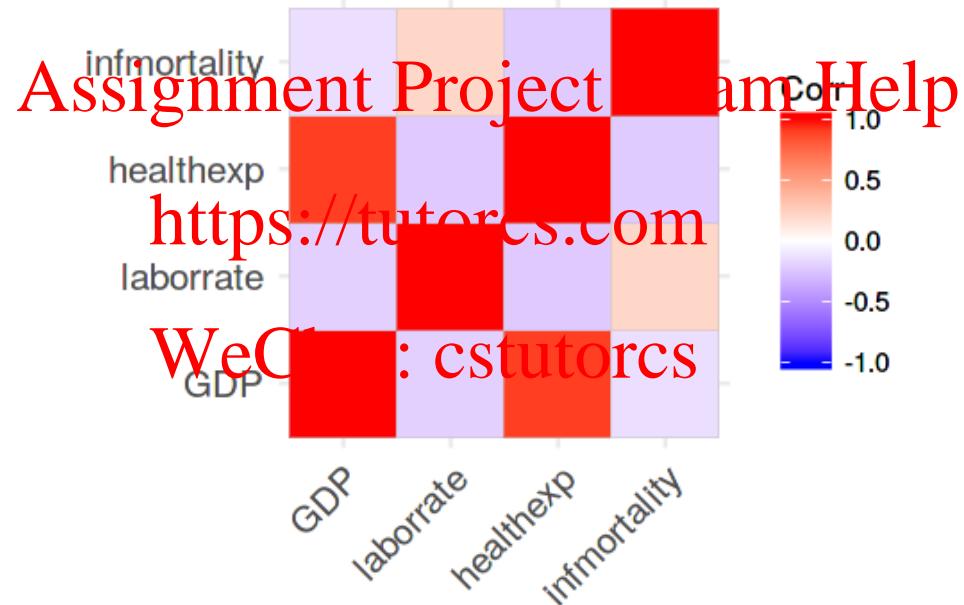
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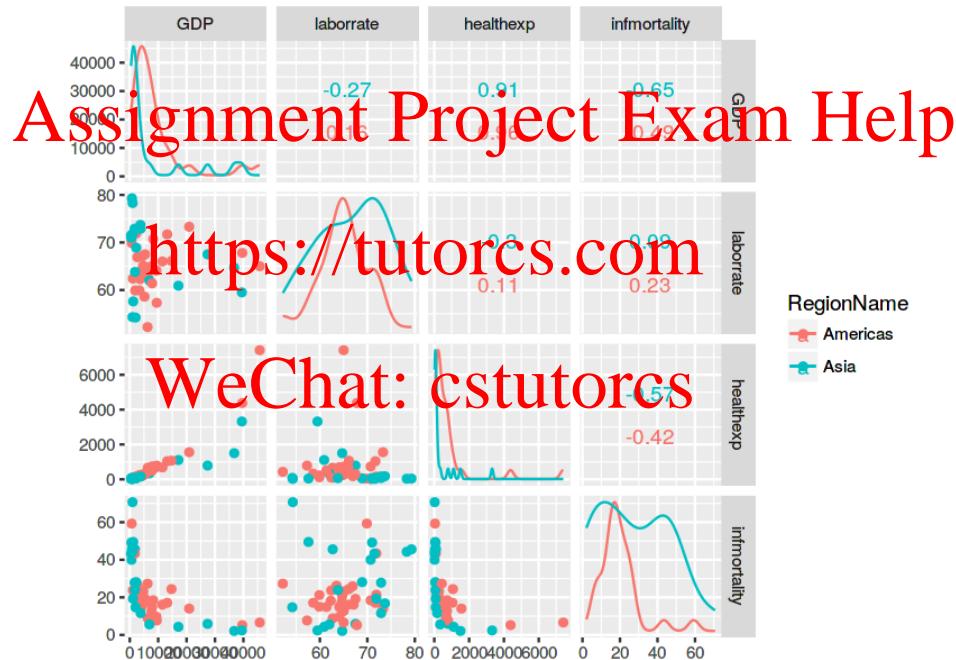
Correlation Plots



Correlation Plots



Correlation Plots



Workshop 3



- Part 1 will introduce correlation plots, Part 2 will be applying your learned skill to a data-set.

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