Res-seaRch: R in Res-Search

University of Melbourne

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**This Document is in:**

[**http://go.unimelb.edu.au/obr6**](http://go.unimelb.edu.au/obr6)

**Data:**

<https://github.com/resbaz/pedestriancounts>

Relevant Files:

[Pedestriancounts\_melbourne\_2906.zip](https://github.com/resbaz/pedestriancounts/blob/master/pedestriancounts_melbourne_2906.zip) (Used for main data analysis)

[Pedestrian\_sensor\_locations.csv](https://github.com/resbaz/pedestriancounts/blob/master/Pedestrian_sensor_locations.csv) (Used to plot sensor locations)

**Catch-Up Code:**

https://docs.google.com/document/d/17BwZI8lhegz\_9g0oWN6RDIp720w8wAJlbKQyMBeLxd0/edit?usp=sharing

**Code With Solution to challenges**

https://docs.google.com/document/d/1HFL-6TDAotg3G82QlFikG4SOJ9KYF0q3MNTwnhuIZXg/edit?usp=sharing

**In case you need WIFI ACCESS (visitor networ:**

Username: ressearch

Password: t@k4EA

Workshop Requirements

Participants must bring own Laptop (and charger), with a Mac, Linux, or Windows operating system (not a tablet, Chromebook, etc.) that they have administrative privileges on.

Download R and RStudio: <https://resbaz.github.io/installRinstructions/>

Resources:

Introductory Workshop Material:<https://nikkirubinstein.gitbooks.io/resguides-introductory-r-workshop/content/content/01-rstudio-intro.html>

Cheat Sheets:

Base R

<https://www.rstudio.com/wp-content/uploads/2016/05/base-r.pdf>

ggplot

<https://www.rstudio.com/wp-content/uploads/2016/11/ggplot2-cheatsheet-2.1.pdf>

Challenges:

#Challenge 1.1: Find the hour and Location where/when the most pedestrian counts were registered

newdata[which.max(newdata$PedestrianCount),]

#Chalenge 1.2: Optional L2 removal

#Find the hour and Location where/when the most pedestrian counts were registered in December

2.

#Challenge 2.1#Generate a new data frame with only pedestrian counts from December and January

#What is the total pedestrian counts for these months?

#What is the mean pedestrian counts (per hour) for these months?

#Challenge 2.2: Optional L2 removal

# Use the previously created data frame to calculate the total pedestrian

# counts at melbourne central in Decemeber and January

# Is that greater to the one at Flinders Street Station Underpass?

#Challenge 2.3: Optional L1 removal

#Generate a new data frame without Info from Collins Place (North and South)

#Challenge 2.4

# Get the mean Pedestrian count on Fridays by location

3.

#Challenge 3.1

# Scatter Plot pedestrian counts against the day of the week

# Use the data.frame with data for the 5 sensors (Otherwise it will take some time to plot)

# Hint: geom\_point

#Challenge 3.2

#Plot the total pedestrian counts per month using a bar plot

#Hint: might be easier to use stat\_summary

#Challenge 3.3

#Plot the mean Hourly pedestrian counts for Southern Cross Station and Melbourne Central

#Hint: x-axis: hour. y-axis: pedestrian counts

4.

#FINAL BIG CHALLENGE :

#1. Come up with research question

#2. Subset the data accordingly

#3. Use a plot or statistic to answer your research question