Appendix

Appendix 1 - Example of Australian Bureau of Statistics Census 2016 data extract R code

```r
library(rsdmx)
library(tidyverse)

# getwd()
setwd(dirname(rstudioapi::getActiveDocumentContext()$path))

# Check to make sure the ABS folder is available
# and, if not, create it. Saving file to right
# location will fail without the required folder
if (!dir.exists("../Data Files/ABS")) {
    create.dir("../Data Files/ABS")
}

# Get the ABS Census 2016 Data on Dwelling Type
dwelling_data <- as.data.frame(readSDMX(providerId = "ABS",
    resource = "data", flowRef = "ABS_C16_T24_SA",
    key = "TOT.TOT+11+21+22+31+32+33+34+91+92+93+94+Z+NA.0+1+2+3+4+5+6+7+8+9.SA2",
    key.mode = "SDMX", start = 2016, end = 2016))
summary(dwelling_data)
head(dwelling_data)
str(dwelling_data)

# MISSING 9 SA2 Codes
dwelling_data %>% distinct(ASGS_2016)

# Distinct dimension values
dwelling_data %>% distinct(DWTD_2016)

## Retrieve Metadata to help with decoding values.
ds_url = "http://stat.data.abs.gov.au/restsdmx/sdmx.ashx/GetDataStructure/ABS_C16_T24_SA"
dataStructure <- readSDMX(ds_url)
codeList <- slot(dataStructure, "codelists")

# Dwelling Type
dwelling_type <- as.data.frame(codeList, codelistId = "CL_ABS_C16_T24_SA_STRD_2016")

# Get Required Data and put in meaningful
# descriptions
dwelling_data_final <- dwelling_data %>% inner_join(dwelling_type,
    by = c(STRD_2016 = "id")) %>% select(SA2_CODE = ASGS_2016,
    DWELLING_TYPE = label.en, obsValue)

# getwd()
write_csv(dwelling_data_final, "../Data Files/ABS/Dwelling_Type_SA2_2016.csv")
```

Appendix 2 - Example of NSW Government Air Quality data download using R

```r
#getwd()
setwd(dirname(rstudioapi::getActiveDocumentContext()$path))

if (!dir.exists("../Data Files/NSWGovt/")) {
  dir.create("../Data Files/NSWGovt/")
}

## Download NSW Air Quality File if it doesn't already exist
if (!file.exists("../Data Files/NSWGovt/AirQuality_Data.xls")) {
  aq = "https://airquality.environment.nsw.gov.au/aquisnetnswphp/tmp/tmp_table_21553_1555911469.xls"
  download.file(aq,
                destfile = "../Data Files/NSWGovt/AirQuality_Data.xls",
                mode = "wb")
}

## Download NSW Air Quality Stations if it doesn't already exist
if (!file.exists("../Data Files/NSWGovt/AirQuality_Station_Data.xlsx")) {
  stations = paste0("https://datasets.seed.nsw.gov.au/dataset/",
                    "ee5fd225-ab54-49c4-8c91-930219018cd0/resource/",
                    "e09a1918-af2b-4375-ad04-00fabce72a10/download/",
                    "air-quality-monitoring-sites-summary.xlsx")
  download.file(stations,
                destfile = "../Data Files/NSWGovt/AirQuality_Stations_Data.xlsx",
                mode = "wb")
}
```