```r
library(readr)
full <- read_csv("diagnosing_AD_data.csv")
```

```
## Rows: 174 Columns: 452
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr   (2): ID, class
## dbl (450): air_time1, disp_index1, gmrt_in_air1, gmrt_on_paper1, max_x_exten...
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```r
library(dplyr) #needed for the %>% function in the data subset loops
```

```
##
## Attaching package: 'dplyr'
##
## The following objects are masked from 'package:stats':
##
##     filter, lag
##
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```r
library(ggplot2)
library(knitr)
```

```r
a=1
b=6
c=15
access <- data.frame(matrix(nrow=174))

for (i in 1:25) {
  access <- access %>%
    mutate(full[a:(a+2)], full[b:(b+1)], full[c:(c+1)])

  a <- a+18
  b <- b+18
  c <- c+18

}

access <- access %>%
  mutate(full[451:452])

access <- subset(access, select = -(matrix.nrow...174.))
```

```r
d <- 2

for (i in (1:25)) {
```

```
  df <- data.frame(access[1], access[d:(d+6)])
  df <- df %>%
    mutate(access[177])

  assign( paste("Task", i, sep = "_"), df)
  d <- d+7
}
```

```
demographics <- data_frame("Class" = c("Patients", "Control Group"), "Age" = c(71.5, 68.9), "Education"
```

```
## Warning: `data_frame()` was deprecated in tibble 1.1.0.
## i Please use `tibble()` instead.
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```

```
Logistic <- data.frame(" " = c("Accuracy", "Sensitiviy", "Specificity"), "Original Results" = c("73.71
SVM <- data.frame(" " = c("Accuracy", "Sensitiviy", "Specificity"), "Original Results" = c("79.00 (+/- 
RF <- data.frame(" " = c("Accuracy", "Sensitiviy", "Specificity"), "Original Results" = c("88.39 (+/- 4
KNN <- data.frame(" " = c("Accuracy", "Sensitiviy", "Specificity"), "Original Results" = c("71.43 (+/- 

P_change <- data.frame(" " = c("Accuracy", "Sensitiviy", "Specificity"), "LR*" = c(-3.34, -10.48, -15.4

Logistic %>%
  kable(col.names = c(" ", "Original Results", "Our Results"))
```

	Original Results	Our Results
Accuracy	73.71 (+/- 6.85)	70.37
Sensitiviy	68.06	52.63
Specificity	79.71	69.23

```
SVM %>%
  kable(col.names = c(" ", "Original Results", "Our Results"))
```

	Original Results	Our Results
Accuracy	79.00 (+/- 7.55)	82.06 (+/- 16.75)
Sensitiviy	77.5	80
Specificity	80.59	84.12

```
RF %>%
  kable(col.names = c(" ", "Original Results", "Our Results"))
```

	Original Results	Our Results
Accuracy	88.39 (+/- 4.90)	88.40 (+/- 11.77)
Sensitiviy	90.28	94.44
Specificity	86.18	82.35

```
KNN %>%
  kable(col.names = c(" ", "Original Results", "Our Results"))
```

	Original Results	Our Results
Accuracy	71.43 (+/- 8.34)	64.75 (+/- 8.55)
Sensitiviy	89.41	53.52
Specificity	54.44	76.47

```
P_change %>%
  kable(col.names = c(" ", "LR*", "SVM", "KNN", "RF"))
```

	LR*	SVM	KNN	RF
Accuracy	-3.34	+3.06	-6.68	-3.83
Sensitiviy	-10.48	+2.50	-35.89	+4.16
Specificity	-15.43	+3.53	+22.00	+0.01