```
library(pastecs)
 2
 3
   library(readr) #importing csv files
   library(dplyr) #general analysis
   library(ggplot2) #making charts
 5
   library(lubridate) #date functions
 7
   library(reshape2) #use this for melt function to create one record for each team
 8
   library(tidyr)
 9
   library(janitor) #use this for doing crosstabs
10
   library(scales) #needed for stacked bar chart axis labels
11 library(knitr) #needed for making tables in markdown page
   library(htmltools)#this is needed for Rstudio to display kable and other html code
12
13 library(rmarkdown)
14 library(kableExtra)
15
   library(ggthemes)
16 | library(stringr)
17
   library(RMySQL)
18 library(readxl) #for importing Excel files
   library(DT) #needed for making searchable sortable data tble
19
20 library(waffle)
21 library(foreign) #for importing SPSS files
   library(jsonlite) #for exporting JSON
22
23 library(car)
   library(aws.s3) #for Loading to AWS server
24
25
   options(scipen=999)
   library(scales)
26
27
28
29
   #need compare_districts table that is created in the basicskills_districts.R file
30
31
32
33
   # AUTO-GENERATE CHARTS -------
34
35
   #this generates list of the districts that are over/under by 15% plus St. Paul &
36
   Minneapolis
37
   districts <- compare districts %>%
     filter(yr==2018, diffscope=='over by 15% or more' | diffscope=='under by 15% or more'
38
    | districtid=='0625-01-000' | districtid=='0001-03-000') %>% ungroup() %>%
    select(district name) %>% distinct()
39
40
41
42 #this generates charts and data files for all the districts in districts df
   #puts them in sub-directory called "district_exports"
43
   for (i in 1:nrow(districts)){
44
45
     district selected = districts$district[i]
46
47
     g1_data <- gather(compare_districts %>%
48
49
                          filter(district name==district selected) %>%
                          ungroup()%>%
50
51
                          select(yr, total_basic_skills_revenue, tot_spent), type, amount,
    total basic skills revenue:tot spent)
52
```

```
plot <- ggplot(g1_data, aes(yr, amount, fill=type))+</pre>
 53
 54
         geom_bar(stat = "identity", position = 'dodge') +
 55
         scale_y_continuous(labels=dollar_format())+
         scale x continuous(breaks=c(2007:2018, 1))+
 56
         scale fill manual(name=NULL,
 57
                           values=c("#00559c", "#6c7176"),
 58
 59
                           breaks=c("total_basic_skills_revenue", "tot_spent"),
                           labels=c("Revenue", "Expenditure"))+
 60
 61
        theme hc()+
 62
         labs(title = district selected,
              subtitle = "Basic Skills revenue and spending",
 63
              caption = "Star Tribune analysis",
 64
 65
              x="Ending fiscal year",
              y="")
 66
 67
      plot
 68
 69
      plotname <- paste('./district exports/', district selected, 'graphic', sep=' ')</pre>
 70
       ggsave(paste(plotname, '.jpg'), plot,width=8, height=5, units="in", dpi="print" )
 71
 72
 73
      df <- compare_districts %>%
         filter(district name==district_selected) %>%
 74
 75
         ungroup() %>%
 76
         select(yr, district_name, total_compensatory_revenue, el_revenue,
     el_concentration_revenue, total_basic_skills_revenue, comp_spent, el_spent, tot_spent)
 77
 78
      datafilename <- paste('./district exports/', district selected, 'data', sep=' ')</pre>
 79
 80
      write.csv(df, paste(datafilename, '.csv'), row.names=FALSE)
 81
 82
    }
 83
 84
 85
    # MAKE CHARTS MANUALLY -----
 86
 87
    #use code below to create a chart for a single district and then export manually
 88
 89
 90
 91
    district2 = 'MONTGOMERY-LONSDALE SCHOOL DISTRICT'
92
93
    g2_data <- gather(compare_districts %>%
                          filter(district_name==district2) %>%
94
 95
                          ungroup()%>%
                          select(yr, total_basic_skills_revenue, tot_spent), type, amount,
 96
    total basic skills revenue:tot spent)
97
98
    plot2 <- ggplot(g2_data, aes(yr, amount, fill=type))+</pre>
99
      geom_bar(stat = "identity", position = 'dodge') +
100
       scale_y_continuous(labels=dollar_format())+
       scale x continuous(breaks=c(2007:2018, 1))+
101
102
       scale fill manual(name=NULL,
                         values=c("#00559c", "#6c7176"),
103
                         breaks=c("basicskills_rev", "tot_spent"),
104
                         labels=c("Revenue", "Expenditure"))+
105
106
      theme_hc()+
107
       labs(title = district2,
```