시각화 컨트롤

* R

df\_충원율\_botton <- read\_excel('D:/R/git/datavisualization/plotly/RnPy/chap6/고등 주요 01-시도별 신입생 충원율(2010-2022)\_220825y.xlsx',   
 ## 'data' 시트의 데이터를 불러오는데,  
 sheet = 'Sheet1',  
 ## 앞의 10행을 제외하고  
 skip = 7,   
 ## 첫번째 행은 열 이름을 설정  
 col\_names = FALSE,   
 ## 열의 타입을 설정, 처음 8개는 문자형으로 다음 56개는 수치형으로 설정  
 col\_types = c(rep('text', 2), rep('numeric', 12)))  
  
df\_충원율\_botton <- df\_충원율\_botton |> dplyr::select(1, 2, 5)  
  
colnames(df\_충원율\_botton) <- c('연도', '지역', '신입생충원율')  
  
df\_충원율\_botton <- df\_충원율\_botton |> pivot\_wider(names\_from = '연도', values\_from = '신입생충원율')  
  
df\_충원율\_botton <- as.data.frame(df\_충원율\_botton)

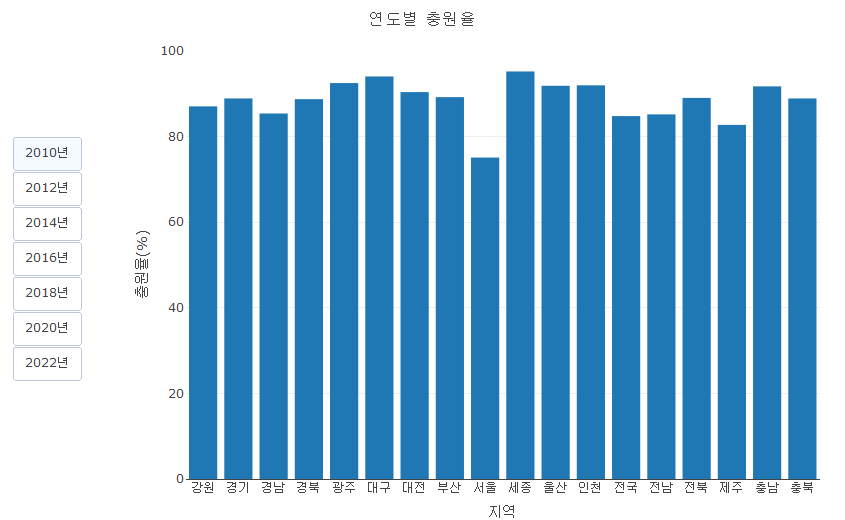
* python

import pandas as pd  
import plotly.graph\_objects as go  
  
df\_충원율\_control = pd.read\_excel("D:/R/git/datavisualization/plotly/RnPy/chap6/고등 주요 01-시도별 신입생 충원율(2010-2022)\_220825y.xlsx",   
 sheet\_name = 'Sheet1',  
 skiprows=(6),   
 header = 0)  
df\_충원율\_control = df\_충원율\_control.iloc[:, [0, 1, 4]]  
df\_충원율\_control.columns = ('연도', '지역', '신입생충원율')  
df\_충원율\_control = df\_충원율\_control.pivot(index = '지역', columns = '연도', values = '신입생충원율').reset\_index()

# 버튼 컨트롤

* R

fig <- df\_충원율\_botton |>  
 plot\_ly() |>  
 add\_trace(type = 'bar', x = ~지역,   
 y = ~`2022`  
 )  
  
fig <- fig %>% layout(  
 title = "연도별 충원율",  
 xaxis = list(domain = c(0.1, 1)),  
 yaxis = list(title = "충원율(%)"),  
 updatemenus = list(  
 list(  
 type = "buttons",  
 y = 0.8,  
 buttons = list(  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2010`)),  
 label = "2010년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2012`)),  
 label = "2012년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2014`)),  
 label = "2014년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2016`)),  
 label = "2016년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2018`)),  
 label = "2018년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2020`)),  
 label = "2020년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2022`)),  
 label = "2022년")))  
 ),   
 margin = margins\_R)  
  
fig



* python

fig = go.Figure()  
  
fig.add\_trace(go.Bar(  
 x = df\_충원율\_control['지역'],   
 y = df\_충원율\_control[2022]  
))  
  
fig.update\_layout(title = dict(text = "연도별 충원율", x = 0.5),  
 xaxis = dict(domain = (0.1, 1)),  
 yaxis = dict(title = "충원율(%)"),  
 updatemenus =[   
 dict(  
 type = "buttons",  
 y = 0.8,  
 buttons = [  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2010]])],  
 label = "2010년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2012]])],  
 label = "2012년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2014]])],  
 label = "2014년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2016]])],  
 label = "2016년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2018]])],  
 label = "2018년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2020]])],  
 label = "2020년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2022]])],  
 label = "2022년")]  
 )]  
)  
  
fig.show()

# 드롭다운 컨트롤

* R

fig <- df\_충원율\_botton |>  
 plot\_ly() |>  
 add\_trace(type = 'bar', x = ~지역,   
 y = ~`2022`  
 )  
  
fig <- fig %>% layout(  
 title = "연도별 충원율",  
 xaxis = list(domain = c(0.1, 1)),  
 yaxis = list(title = "충원율(%)"),  
 updatemenus = list(  
 list(  
# type = "buttons",  
 y = 0.8,  
 buttons = list(  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2010`)),  
 label = "2010년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2012`)),  
 label = "2012년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2014`)),  
 label = "2014년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2016`)),  
 label = "2016년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2018`)),  
 label = "2018년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2020`)),  
 label = "2020년"),  
 list(method = "restyle",  
 args = list("y", list(df\_충원율\_botton$`2022`)),  
 label = "2022년")))  
 ),   
 margin = margins\_R)  
  
fig

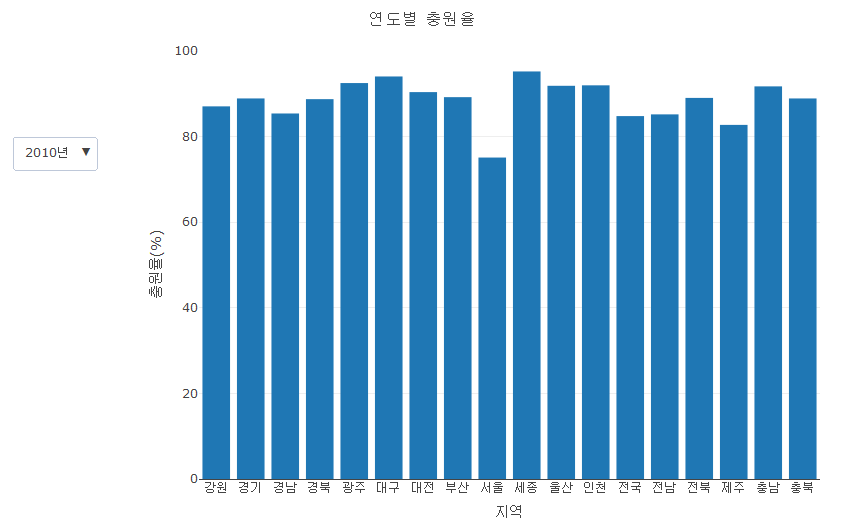
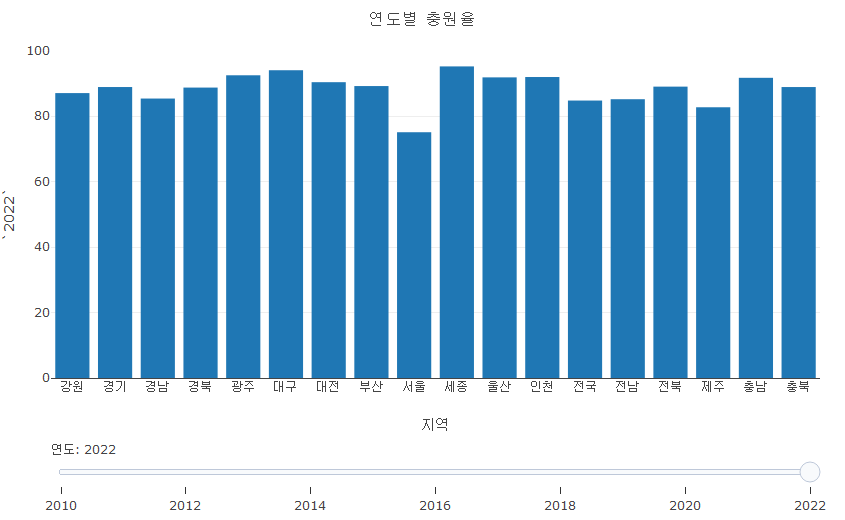


fig = go.Figure()  
  
fig.add\_trace(go.Bar(  
 x = df\_충원율\_control['지역'],   
 y = df\_충원율\_control[2022]  
))  
  
fig.update\_layout(title = dict(text = "연도별 충원율", x = 0.5),  
 xaxis = dict(domain = (0.1, 1)),  
 yaxis = dict(title = "충원율(%)"),  
 updatemenus =[   
 dict(  
# type = "buttons",  
 y = 0.8,  
 buttons = [  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2010]])],  
 label = "2010년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2012]])],  
 label = "2012년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2014]])],  
 label = "2014년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2016]])],  
 label = "2016년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2018]])],  
 label = "2018년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2020]])],  
 label = "2020년"),  
 dict(method = "restyle",  
 args = [dict(y = [df\_충원율\_control[2022]])],  
 label = "2022년")]  
 )]  
)  
  
fig.show()

# 슬라이더 컨트롤

* R

fig <- df\_충원율\_botton |>  
 plot\_ly() |>  
 add\_trace(type = 'bar', x = ~지역,   
 y = ~`2022`  
 )  
  
steps <- list(  
 list(args = list("y", list(df\_충원율\_botton$`2010`)),   
 label = "2010",   
 method = "restyle",   
 value = "1"  
 ),  
 list(args = list("y", list(df\_충원율\_botton$`2012`)),   
 label = "2012",   
 method = "restyle",   
 value = "2"  
 ),  
 list(args = list("y", list(df\_충원율\_botton$`2014`)),   
 label = "2014",   
 method = "restyle",   
 value = "3"  
 ),  
 list(args = list("y", list(df\_충원율\_botton$`2016`)),   
 label = "2016",   
 method = "restyle",   
 value = "4"  
 ),  
 list(args = list("y", list(df\_충원율\_botton$`2018`)),   
 label = "2018",   
 method = "restyle",   
 value = "5"  
 ),  
 list(args = list("y", list(df\_충원율\_botton$`2020`)),   
 label = "2020",   
 method = "restyle",   
 value = "6"  
 ),  
 list(args = list("y", list(df\_충원율\_botton$`2022`)),   
 label = "2022",   
 method = "restyle",   
 value = "7"  
 )  
)  
  
  
fig <- fig %>% layout(  
 title = "연도별 충원율",  
 sliders = list(  
 list(  
 active = 6,   
 currentvalue = list(prefix = "연도: "),   
 pad = list(t = 60),   
 steps = steps)),   
 margin = margins\_R)  
  
fig



* python

fig = go.Figure()  
  
fig.add\_trace(go.Bar(  
 x = df\_충원율\_control['지역'],   
 y = df\_충원율\_control[2022]  
))  
  
steps = [  
 dict(args = [dict(y = [df\_충원율\_control[2010]])],   
 label = "2010",   
 method = "restyle",   
 value = "1"  
 ),  
 dict(args = [dict(y = [df\_충원율\_control[2012]])],   
 label = "2012",   
 method = "restyle",   
 value = "2"  
 ),  
 dict(args = [dict(y = [df\_충원율\_control[2014]])],   
 label = "2014",   
 method = "restyle",   
 value = "3"  
 ),  
 dict(args = [dict(y = [df\_충원율\_control[2016]])],   
 label = "2016",   
 method = "restyle",   
 value = "4"  
 ),  
 dict(args = [dict(y = [df\_충원율\_control[2018]])],   
 label = "2018",   
 method = "restyle",   
 value = "5"  
 ),  
 dict(args = [dict(y = [df\_충원율\_control[2020]])],   
 label = "2020",   
 method = "restyle",   
 value = "6"  
 ),  
 dict(args = [dict(y = [df\_충원율\_control[2022]])],   
 label = "2022",   
 method = "restyle",   
 value = "7"  
 )]  
  
  
fig.update\_layout(title = dict(text = "연도별 충원율", x = 0.5),  
 xaxis = dict(domain = (0.1, 1)),  
 yaxis = dict(title = "충원율(%)"),  
 sliders = [dict(  
 dict(  
 active = 6,   
 currentvalue = dict(prefix = "연도: "),   
 pad = dict(t = 60),   
 steps = steps))]  
)  
  
fig.show()