JTBC 1702

Problem

JTBC 뉴스룸에서는 다음과 같은 도표의 후보지지도 여론조사 결과를 보도.

```
knitr::include_graphics("../pics/poll_2017_JTBC.jpg")
```

막대의 높이에 의구심을 표한 시청자들의 항의에 직면함.

제대로 된 막대그래프를 그리면서 R Base plot과 ggplot에 대하여 학습.

Data Setup

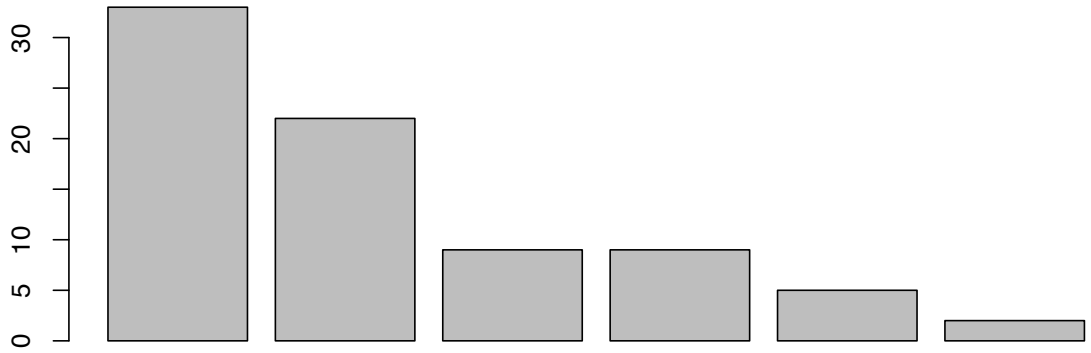
```
library(extrafont)
candidates <- c("  ", "  ", "  ", "  ", "  ", "  ")
rates <- c(33, 22, 9, 9, 5, 2)
party <- c("    ", "    ", "    ", "    ")
colour_party <- c("skyblue", "lightgrey", "darkgreen", "darkblue")
candidates_party <-  c("    ", "    ", "    ",
                       "    ", "    ", "    ")
match(candidates_party, party)
```

```
## [1] 1 1 2 3 1 4
```

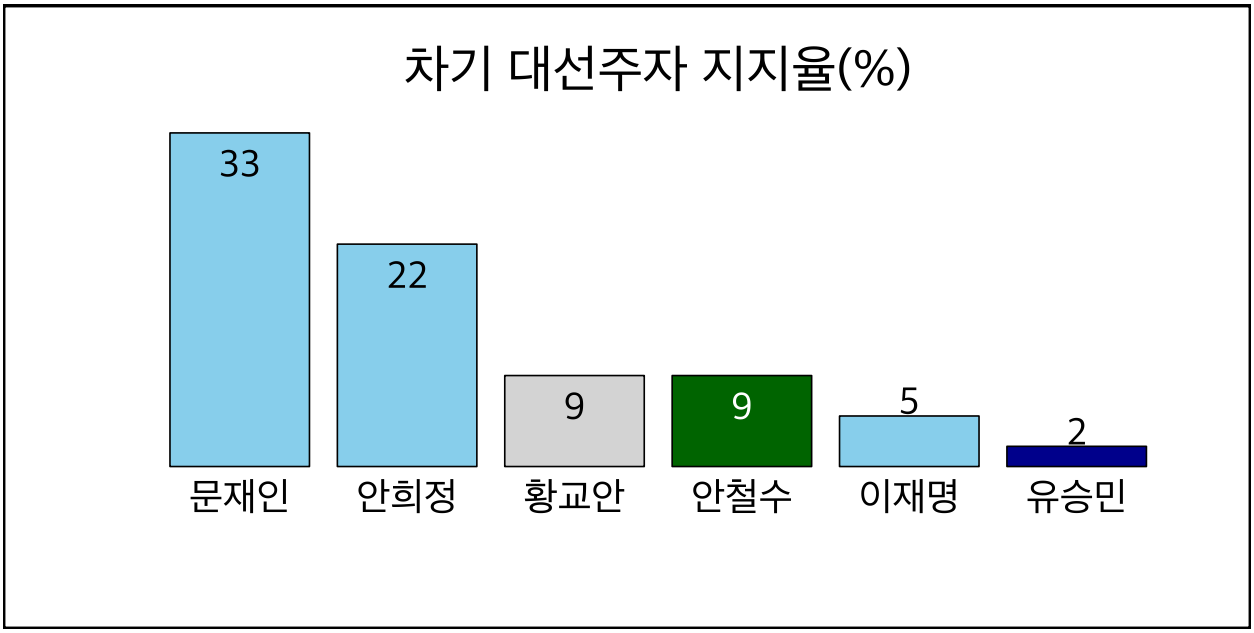
```
candidates_colour <- colour_party[match(candidates_party, party)]
```

Barplot (R Base)

```
barplot(rates)
```




```
library(showtext)
# font_add(family = "noto", regular = "/Users/kwlee/Library/Fonts/NotoSansKR-VariableFont_wght.ttf")
# showtext_auto()
font_add(family = "Apple", regular = "/System/Library/Fonts/AppleSDGothicNeo.ttc")
showtext_auto()
par(family = "Apple")
b1 <- barplot(rates,
              axes = FALSE,
              col = candidates_colour,
              names.arg = NULL,
              cex.names = 1.5)
mtext(side = 1, at = b1, line = 0.5, text = candidates, cex = 1.5)
text(x = b1, y = rates + c(rep(-3, 4), rep(1.5, 2)),
     labels = rates,
     col = c("black", "black", "black", "white", "black", "black"),
     cex = 1.5)
main_title <- "       (%)"
title(main = main_title,
      cex.main = 2)
box(which = "figure", lwd = 3)
```




```
dev.copy(png, "../pics/jtbc1702.png", width = 640, height = 320)
```

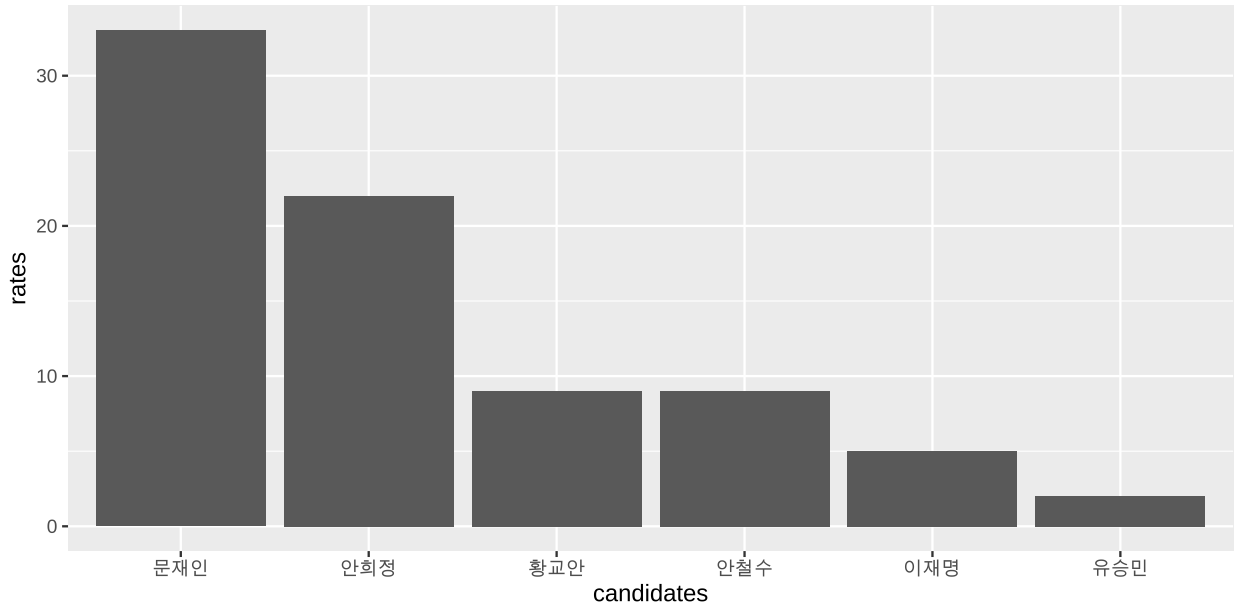
```
## quartz_off_screen
##                 3
```

```
dev.off()
```

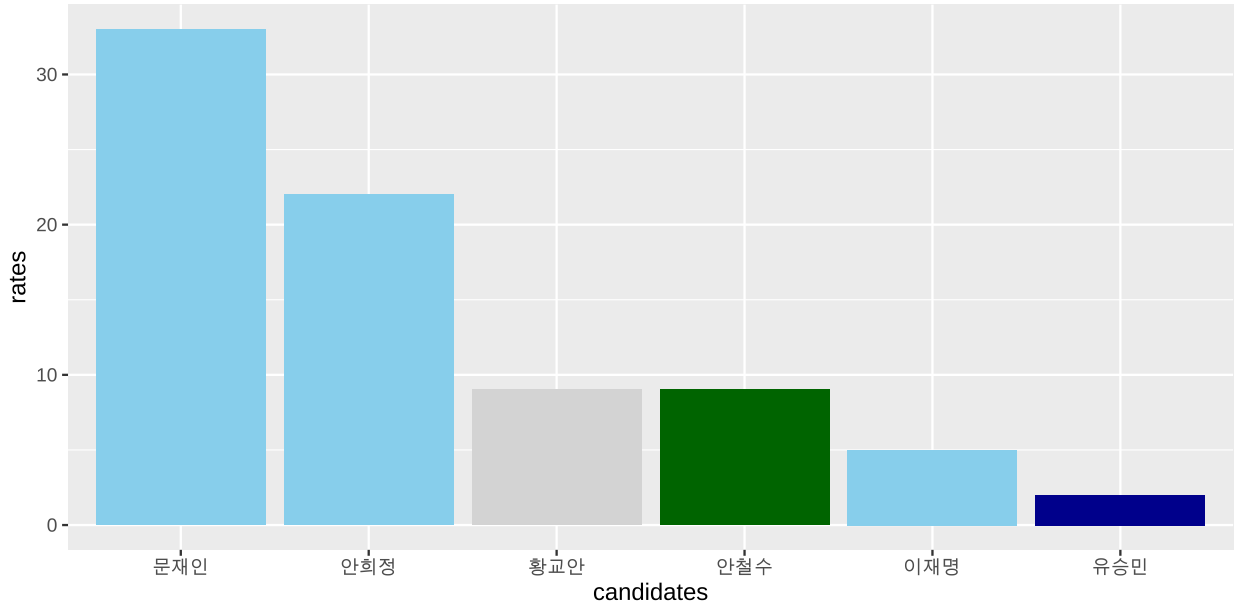
```
## cairo_pdf
##         2
```

ggplot

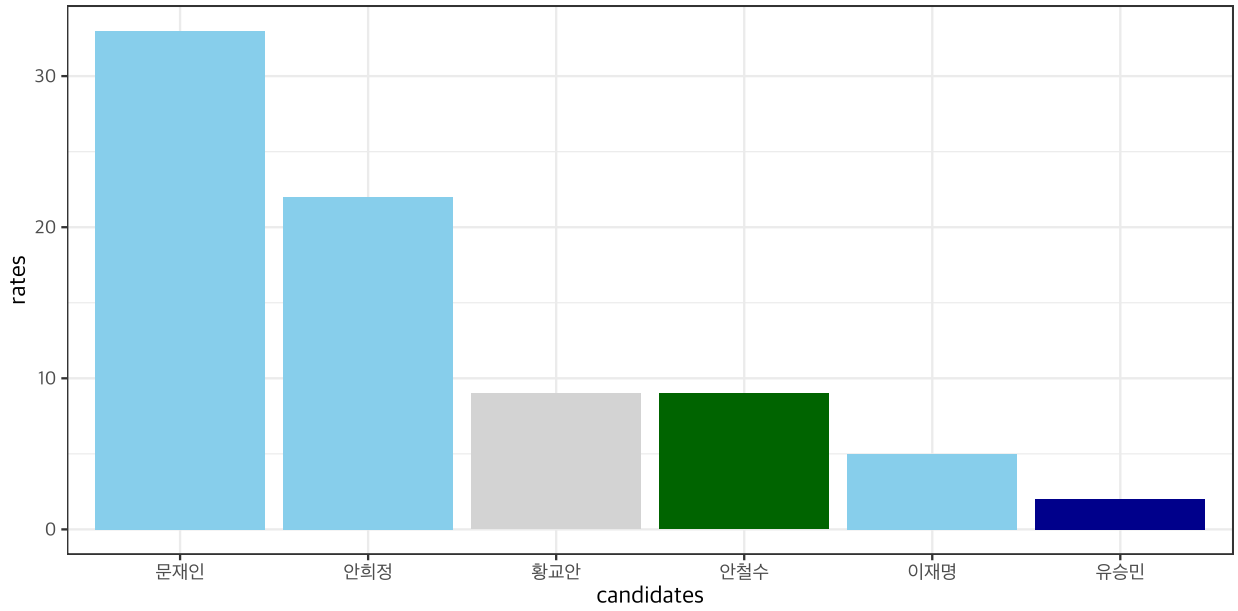
```
library(ggplot2)
candidates <- factor(candidates, levels = candidates)
rates_df <- data.frame(candidates,
                       candidates_party,
                       candidates_colour,
                       rates)
g0 <- ggplot(data = rates_df,
             mapping = aes(x = candidates,
                           y = rates))
(g1 <- g0 +
  geom_bar(stat = "identity"))
```



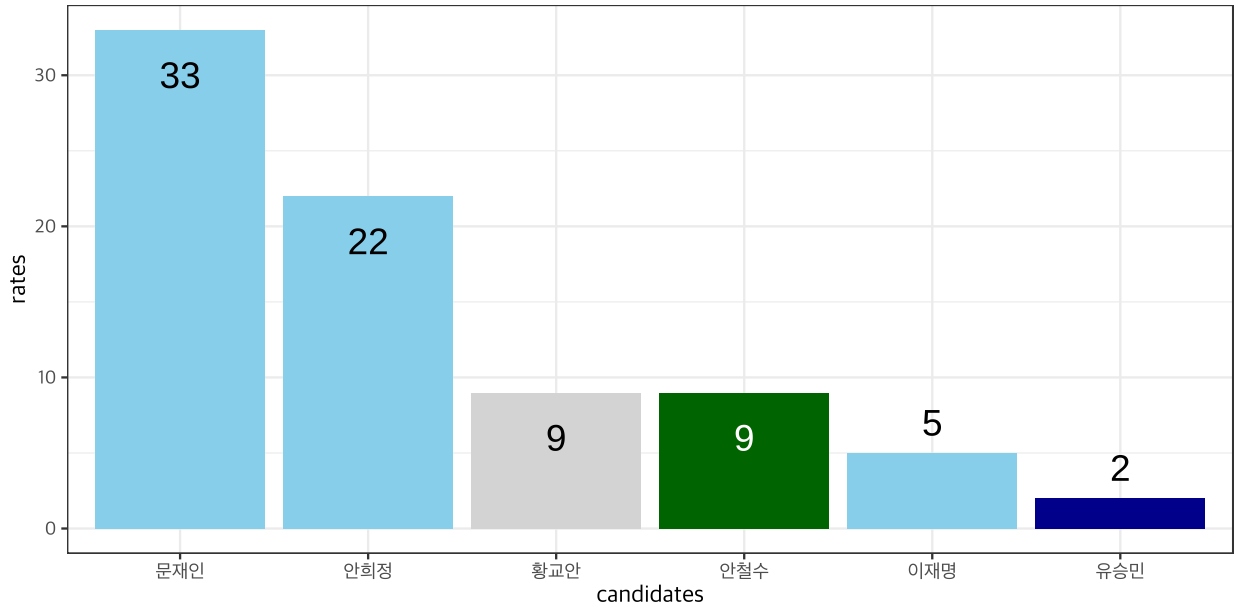

```
(g2 <- g0 +
  geom_bar(stat = "identity",
           fill = candidates_colour))
```



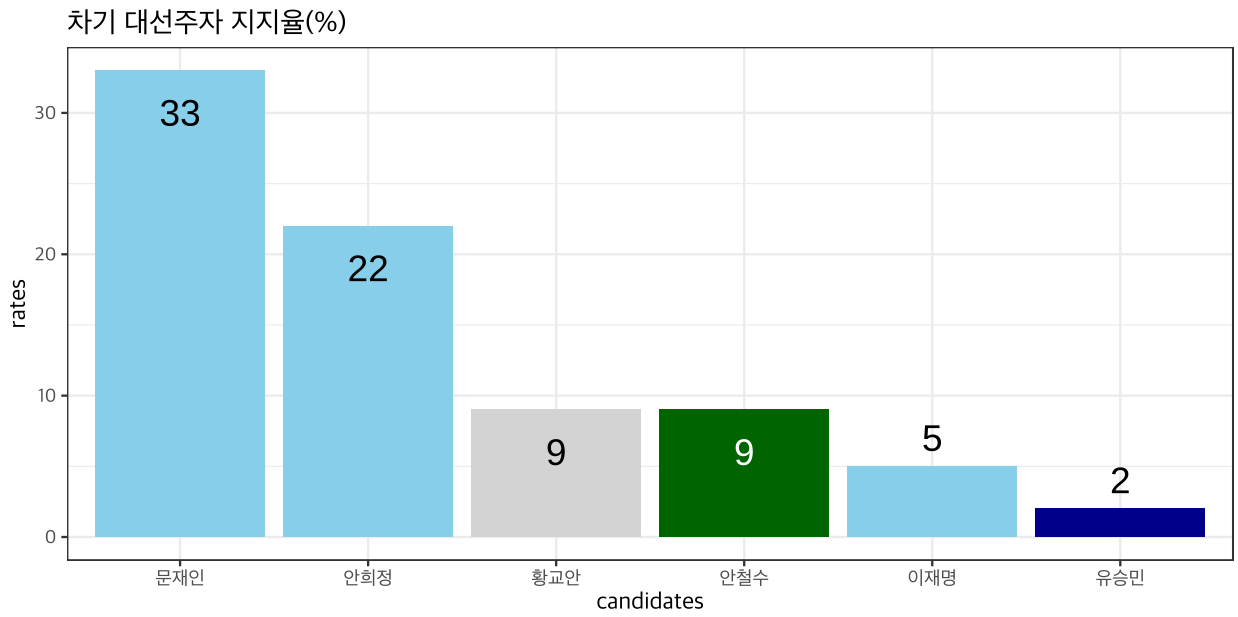

```
(g3 <- g2 +
    theme_bw(base_family = "Apple"))
```



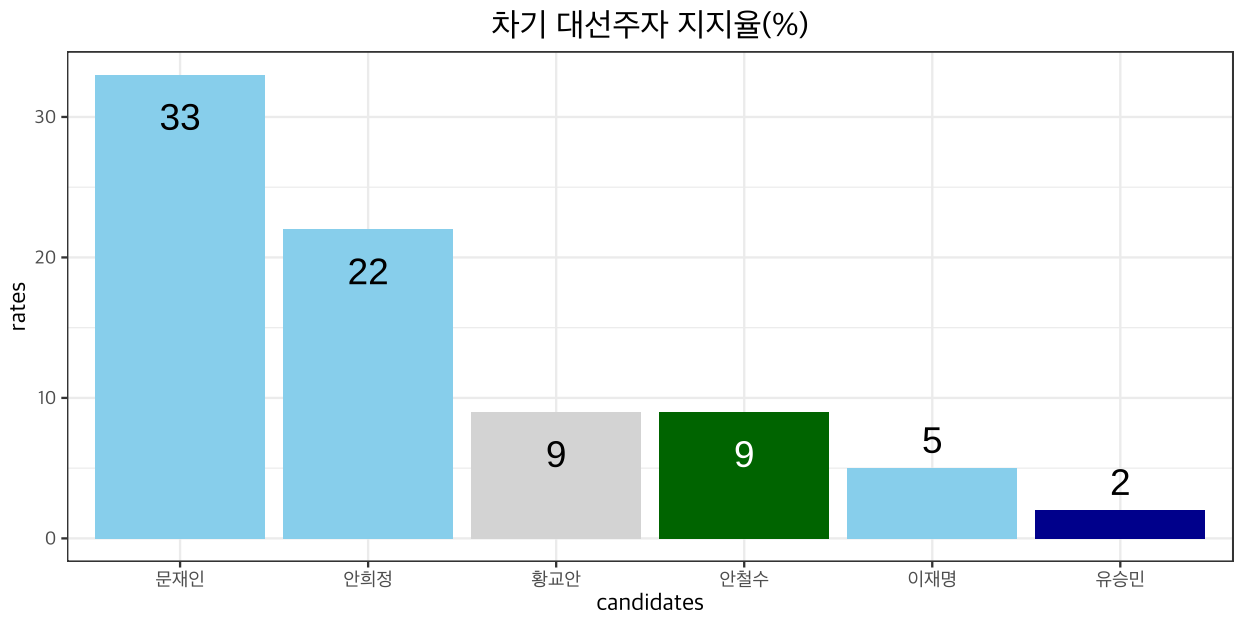

```
(g4 <- g3 +
  geom_text(mapping = aes(x = candidates,
                          y = rates + c(rep(-3, 4), rep(2, 2)),
                          label = rates),
            colour = c(rep("black", 3), "white", rep("black", 2)),
            size = 6))
```



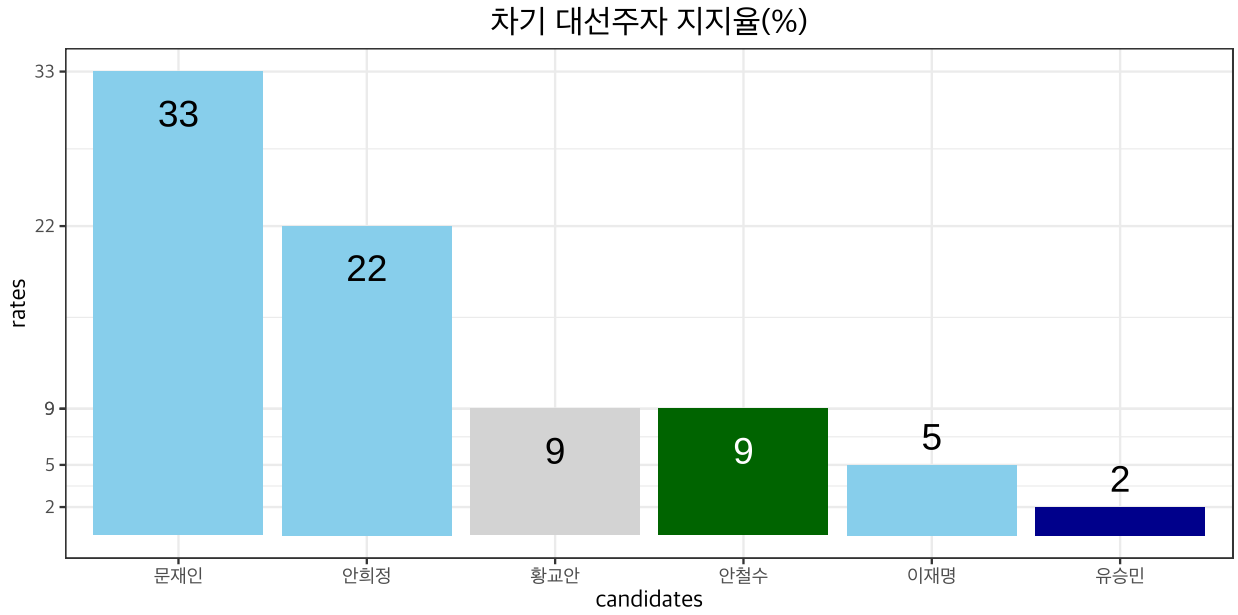

```
(g5 <- g4 +
  labs(title = main_title))
```



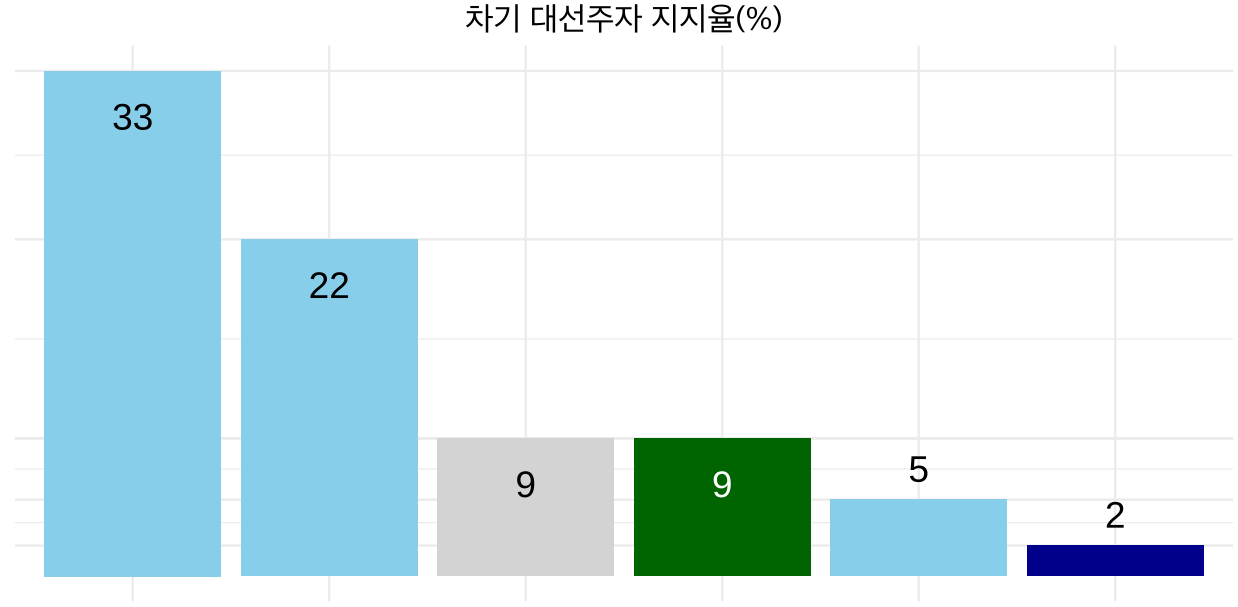

```
(g6 <- g5 +
   theme(plot.title = element_text(family = "Apple",
                                   size = 15,
                                   hjust = 0.5)))
```




```
(g7 <- g6 +
  scale_y_continuous(breaks = rates, labels = rates))
```

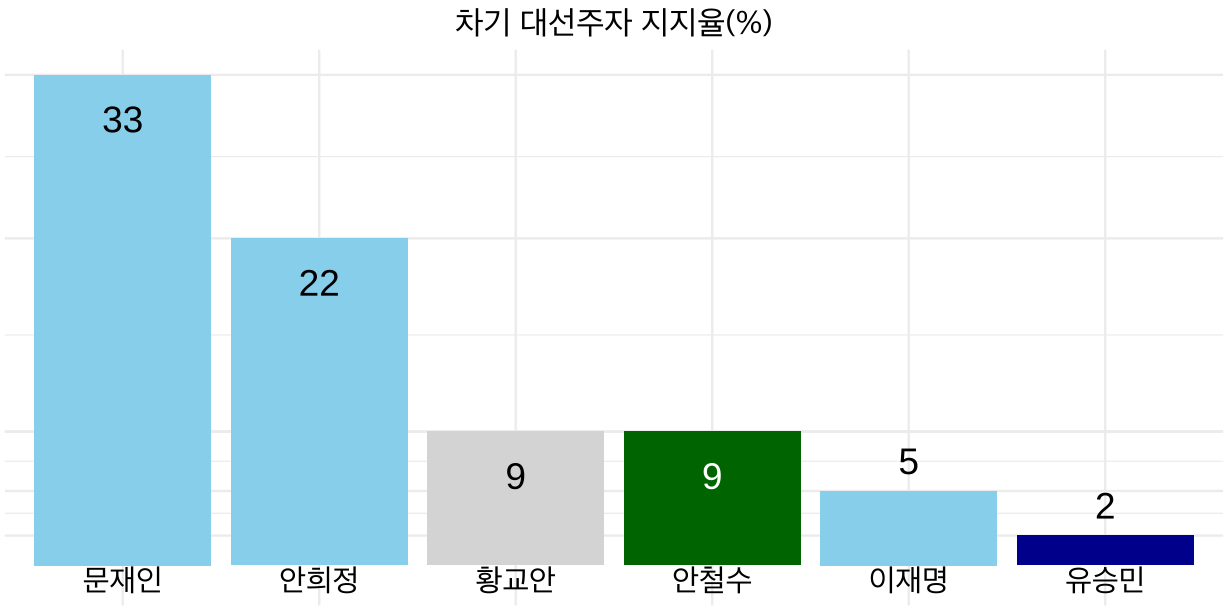



```
(g8 <- g7 +
  theme(panel.border = element_blank(),
        axis.title.x = element_blank(),
        axis.title.y = element_blank(),
        axis.text.x = element_blank(),
        axis.ticks = element_blank(),
        axis.text.y = element_blank()))
```

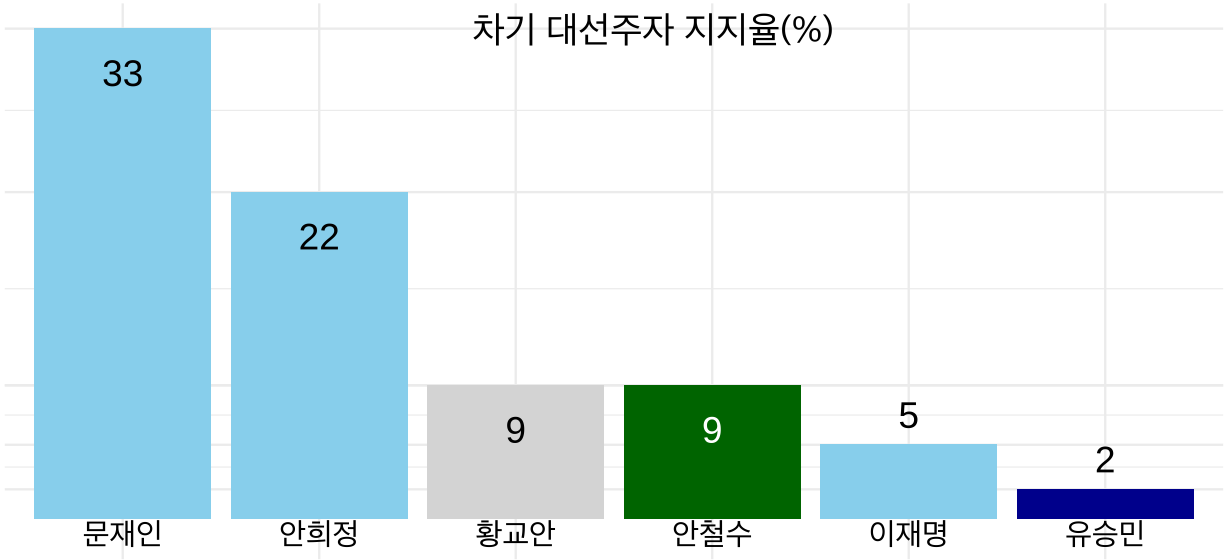



```
(g9 <- g8 +
    geom_text(mapping = aes(x = candidates,
                            y = -1,
                            label = candidates),
```

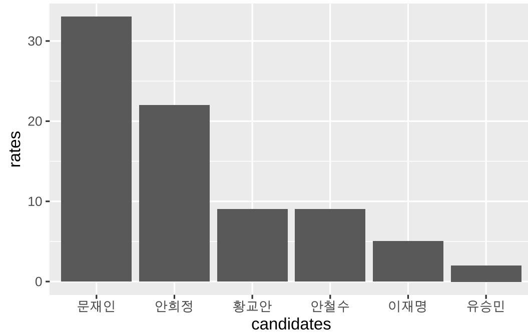
```
            size = 5,
            family = "Apple"))
```

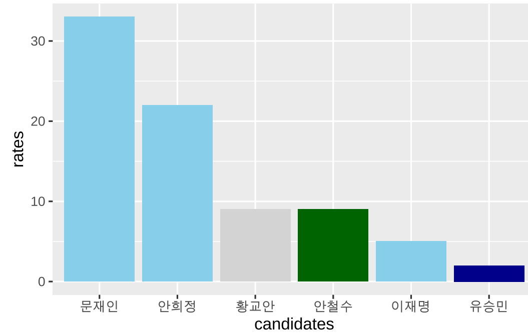


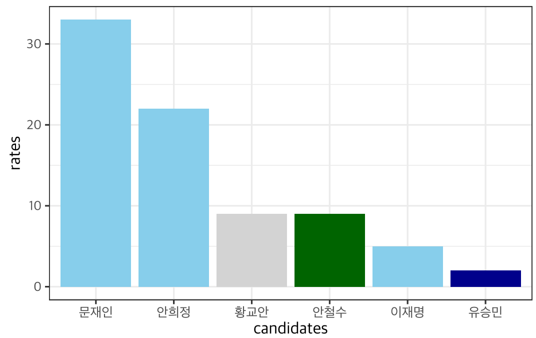

```
(g10 <- g9 +
    ggtitle("") +
    annotate("text",
             x = mean(b1),
             y = Inf,
             label = main_title,
             vjust = 1.5,
             size = 6,
             family = "Apple"))
```

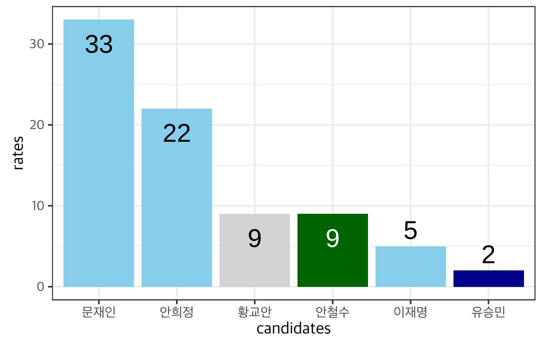


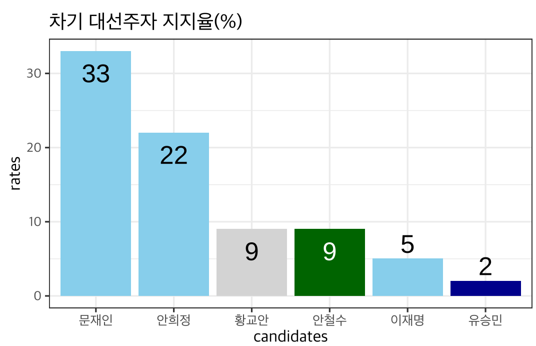
```r
library(gridExtra)
g_all <- grid.arrange(g1, g2, g3, g4, g5, g6, g7, g8, g9, g10, nrow = 5)
```

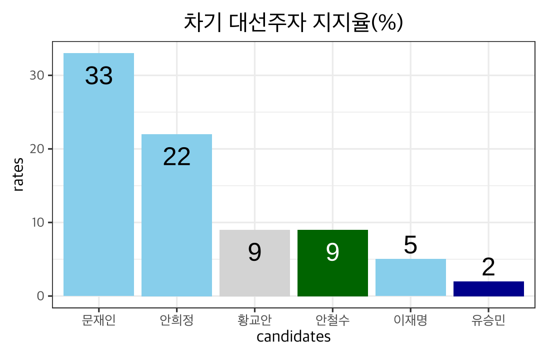

rates
0
10
20
30
문재인
안희정
황교안
안철수
이재명
유승민
candidates

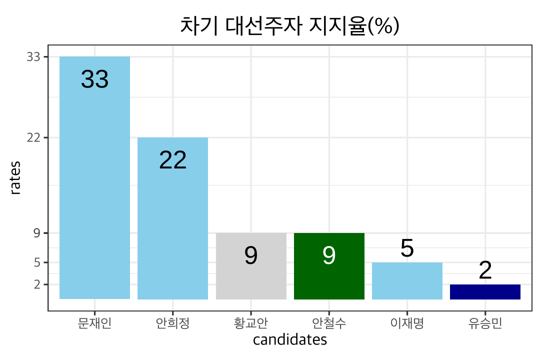

rates
0
10
20
30
문재인
안희정
황교안
안철수
이재명
유승민
candidates

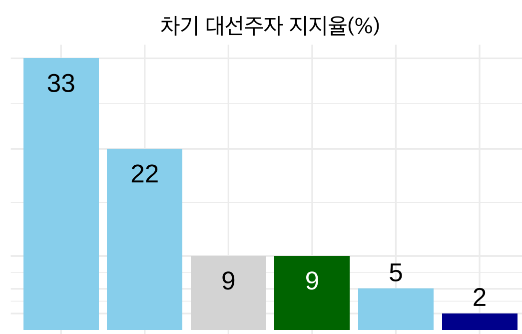

rates
0
10
20
30
문재인
안희정
황교안
안철수
이재명
유승민
candidates

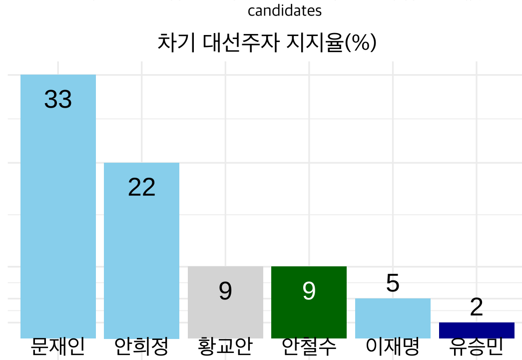

rates
0
10
20
30
33
22
9
9
5
2
문재인
안희정
황교안
안철수
이재명
유승민
candidates

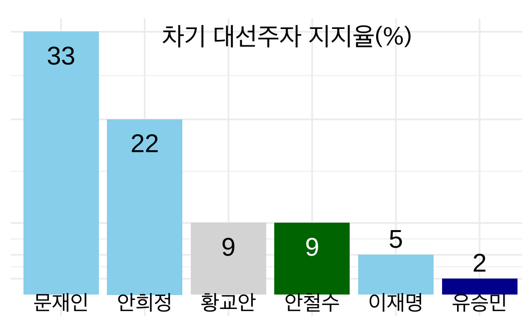

차기 대선주자 지지율(%)
rates
0
10
20
30
33
22
9
9
5
2
문재인
안희정
황교안
안철수
이재명
유승민
candidates


차기 대선주자 지지율(%)
rates
0
10
20
30
33
22
9
9
5
2
문재인
안희정
황교안
안철수
이재명
유승민
candidates


차기 대선주자 지지율(%)
rates
2
5
9
22
33
33
22
9
9
5
2
문재인
안희정
황교안
안철수
이재명
유승민
candidates


차기 대선주자 지지율(%)
33
22
9
9
5
2


차기 대선주자 지지율(%)
33
22
9
9
5
2
문재인
안희정
황교안
안철수
이재명
유승민


차기 대선주자 지지율(%)
33
22
9
9
5
2
문재인
안희정
황교안
안철수
이재명
유승민

```r
ggsave(g10, file = "../pics/poll_JTBC_1702.png", width = 8, height = 4)
ggsave(g_all, file = "../pics/poll_JTBC_1702_plots.png", width = 10, height = 16)
```

Comments

막대그래프를 이용한 눈속임에 대하여 느낀 바를 간단히 기술하세요.