Exploring U.S. Supreme Court Decisions

Kejing Li

Get the data

```
# load useful packages
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.2.1 -

## v ggplot2 3.2.1     v purrr   0.3.2
## v tibble  2.1.3     v dplyr   0.8.3
## v tidyr   1.0.0     v stringr 1.4.0
## v readr   1.3.1     v forcats 0.4.0

## -- Conflicts ------------------------------------------ tidyverse_conflicts() -
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(lubridate)
```

```
##
## Attaching package: 'lubridate'

## The following object is masked from 'package:base':
##
##     date
```

```
# load data
scdbv_mod <- read_csv("data/SCDB_2019_01_justiceCentered_Citation.csv")
```

```
## Parsed with column specification:
## cols(
##   .default = col_double(),
##   caseId = col_character(),
##   docketId = col_character(),
```

```
##   caseIssuesId = col_character(),
##   voteId = col_character(),
##   dateDecision = col_character(),
##   usCite = col_character(),
##   sctCite = col_character(),
##   ledCite = col_character(),
##   lexisCite = col_character(),
##   chief = col_character(),
##   caseName = col_character(),
##   dateArgument = col_character(),
##   dateRearg = col_character(),
##   lawMinor = col_character(),
##   justiceName = col_character()
## )

## See spec(...) for full column specifications.

## Warning: 52201 parsing failures.
##  row    col               expected actual
## 1225 docket no trailing characters      M 'data/SCDB_2019_01_justiceCentered_Ci
## 1226 docket no trailing characters      M 'data/SCDB_2019_01_justiceCentered_Ci
## 1227 docket no trailing characters      M 'data/SCDB_2019_01_justiceCentered_Ci
## 1228 docket no trailing characters      M 'data/SCDB_2019_01_justiceCentered_Ci
## 1229 docket no trailing characters      M 'data/SCDB_2019_01_justiceCentered_Ci
## .... ...... ...................... ...... ....................................
## See problems(...) for more details.
```

```
scdbv_leg <- read_csv("data/SCDB_Legacy_05_justiceCentered_Citation.csv")
```

```
## Parsed with column specification:
## cols(
##   .default = col_double(),
##   caseId = col_character(),
##   docketId = col_character(),
##   caseIssuesId = col_character(),
##   voteId = col_character(),
##   dateDecision = col_character(),
##   usCite = col_character(),
##   sctCite = col_logical(),
##   ledCite = col_character(),
##   lexisCite = col_character(),
##   chief = col_character(),
##   docket = col_logical(),
##   caseName = col_character(),
##   dateArgument = col_character(),
##   dateRearg = col_character(),
##   adminAction = col_logical(),
##   adminActionState = col_logical(),
##   lawMinor = col_character(),
##   justiceName = col_character()
```

```
## )
## See spec(...) for full column specifications.

## Warning: 308308 parsing failures.
##  row         col           expected actual
## 3145 adminAction 1/0/T/F/TRUE/FALSE     21 'data/SCDB_Legacy_05_justiceCentered
## 3146 adminAction 1/0/T/F/TRUE/FALSE     21 'data/SCDB_Legacy_05_justiceCentered
## 3147 adminAction 1/0/T/F/TRUE/FALSE     21 'data/SCDB_Legacy_05_justiceCentered
## 3148 adminAction 1/0/T/F/TRUE/FALSE     21 'data/SCDB_Legacy_05_justiceCentered
## 3149 adminAction 1/0/T/F/TRUE/FALSE     21 'data/SCDB_Legacy_05_justiceCentered
## .... ........... .................. ...... .....................................
## See problems(...) for more details.
```

```
scdbv_mod
```

```
## # A tibble: 80,269 x 61
##    caseId docketId caseIssuesId voteId dateDecision decisionType usCite
##    <chr>  <chr>    <chr>        <chr>  <chr>               <dbl> <chr>
##  1 1946-~ 1946-00~ 1946-001-01~ 1946-~ 11/18/1946              1 329 U~
##  2 1946-~ 1946-00~ 1946-001-01~ 1946-~ 11/18/1946              1 329 U~
##  3 1946-~ 1946-00~ 1946-001-01~ 1946-~ 11/18/1946              1 329 U~
##  4 1946-~ 1946-00~ 1946-001-01~ 1946-~ 11/18/1946              1 329 U~
##  5 1946-~ 1946-00~ 1946-001-01~ 1946-~ 11/18/1946              1 329 U~
##  6 1946-~ 1946-00~ 1946-001-01~ 1946-~ 11/18/1946              1 329 U~
##  7 1946-~ 1946-00~ 1946-001-01~ 1946-~ 11/18/1946              1 329 U~
##  8 1946-~ 1946-00~ 1946-001-01~ 1946-~ 11/18/1946              1 329 U~
##  9 1946-~ 1946-00~ 1946-001-01~ 1946-~ 11/18/1946              1 329 U~
## 10 1946-~ 1946-00~ 1946-002-01~ 1946-~ 11/18/1946              1 329 U~
## # ... with 80,259 more rows, and 54 more variables: sctCite <chr>,
## #   ledCite <chr>, lexisCite <chr>, term <dbl>, naturalCourt <dbl>,
## #   chief <chr>, docket <dbl>, caseName <chr>, dateArgument <chr>,
## #   dateRearg <chr>, petitioner <dbl>, petitionerState <dbl>,
## #   respondent <dbl>, respondentState <dbl>, jurisdiction <dbl>,
## #   adminAction <dbl>, adminActionState <dbl>, threeJudgeFdc <dbl>,
## #   caseOrigin <dbl>, caseOriginState <dbl>, caseSource <dbl>,
## #   caseSourceState <dbl>, lcDisagreement <dbl>, certReason <dbl>,
## #   lcDisposition <dbl>, lcDispositionDirection <dbl>,
## #   declarationUncon <dbl>, caseDisposition <dbl>,
## #   caseDispositionUnusual <dbl>, partyWinning <dbl>,
## #   precedentAlteration <dbl>, voteUnclear <dbl>, issue <dbl>,
## #   issueArea <dbl>, decisionDirection <dbl>,
## #   decisionDirectionDissent <dbl>, authorityDecision1 <dbl>,
## #   authorityDecision2 <dbl>, lawType <dbl>, lawSupp <dbl>,
## #   lawMinor <chr>, majOpinWriter <dbl>, majOpinAssigner <dbl>,
## #   splitVote <dbl>, majVotes <dbl>, minVotes <dbl>, justice <dbl>,
## #   justiceName <chr>, vote <dbl>, opinion <dbl>, direction <dbl>,
## #   majority <dbl>, firstAgreement <dbl>, secondAgreement <dbl>
```

```
scdbv_leg
```

```
## # A tibble: 172,213 x 61
##    caseId docketId caseIssuesId voteId dateDecision decisionType usCite
##    <chr>  <chr>    <chr>        <chr>  <chr>               <dbl> <chr>
##  1 1791-~ 1791-00~ 1791-001-01~ 1791-~ 8/3/1791                6 2 U.S~
##  2 1791-~ 1791-00~ 1791-001-01~ 1791-~ 8/3/1791                6 2 U.S~
##  3 1791-~ 1791-00~ 1791-001-01~ 1791-~ 8/3/1791                6 2 U.S~
##  4 1791-~ 1791-00~ 1791-001-01~ 1791-~ 8/3/1791                6 2 U.S~
##  5 1791-~ 1791-00~ 1791-001-01~ 1791-~ 8/3/1791                6 2 U.S~
##  6 1791-~ 1791-00~ 1791-002-01~ 1791-~ 8/3/1791                2 2 U.S~
##  7 1791-~ 1791-00~ 1791-002-01~ 1791-~ 8/3/1791                2 2 U.S~
##  8 1791-~ 1791-00~ 1791-002-01~ 1791-~ 8/3/1791                2 2 U.S~
##  9 1791-~ 1791-00~ 1791-002-01~ 1791-~ 8/3/1791                2 2 U.S~
## 10 1791-~ 1791-00~ 1791-002-01~ 1791-~ 8/3/1791                2 2 U.S~
## # ... with 172,203 more rows, and 54 more variables: sctCite <lgl>,
## #   ledCite <chr>, lexisCite <chr>, term <dbl>, naturalCourt <dbl>,
## #   chief <chr>, docket <lgl>, caseName <chr>, dateArgument <chr>,
## #   dateRearg <chr>, petitioner <dbl>, petitionerState <dbl>,
## #   respondent <dbl>, respondentState <dbl>, jurisdiction <dbl>,
## #   adminAction <lgl>, adminActionState <lgl>, threeJudgeFdc <dbl>,
## #   caseOrigin <dbl>, caseOriginState <dbl>, caseSource <dbl>,
## #   caseSourceState <dbl>, lcDisagreement <dbl>, certReason <dbl>,
## #   lcDisposition <dbl>, lcDispositionDirection <dbl>,
## #   declarationUncon <dbl>, caseDisposition <dbl>,
## #   caseDispositionUnusual <dbl>, partyWinning <dbl>,
## #   precedentAlteration <dbl>, voteUnclear <dbl>, issue <dbl>,
## #   issueArea <dbl>, decisionDirection <dbl>,
## #   decisionDirectionDissent <dbl>, authorityDecision1 <dbl>,
## #   authorityDecision2 <dbl>, lawType <dbl>, lawSupp <dbl>,
## #   lawMinor <chr>, majOpinWriter <dbl>, majOpinAssigner <dbl>,
## #   splitVote <dbl>, majVotes <dbl>, minVotes <dbl>, justice <dbl>,
## #   justiceName <chr>, vote <dbl>, opinion <dbl>, direction <dbl>,
## #   majority <dbl>, firstAgreement <dbl>, secondAgreement <dbl>
```

```
theme_set(theme_minimal())
```

Combine the datasets

```
#convert docket and adminActionState into numerical
scdbv_leg <-
  scdbv_leg %>%
  mutate(docket = as.numeric(docket),
       adminActionState = as.numeric(adminActionState))

#combine the datasets
scdbv <- bind_rows(scdbv_leg, scdbv_mod)
```

Recode variables as you find necessary

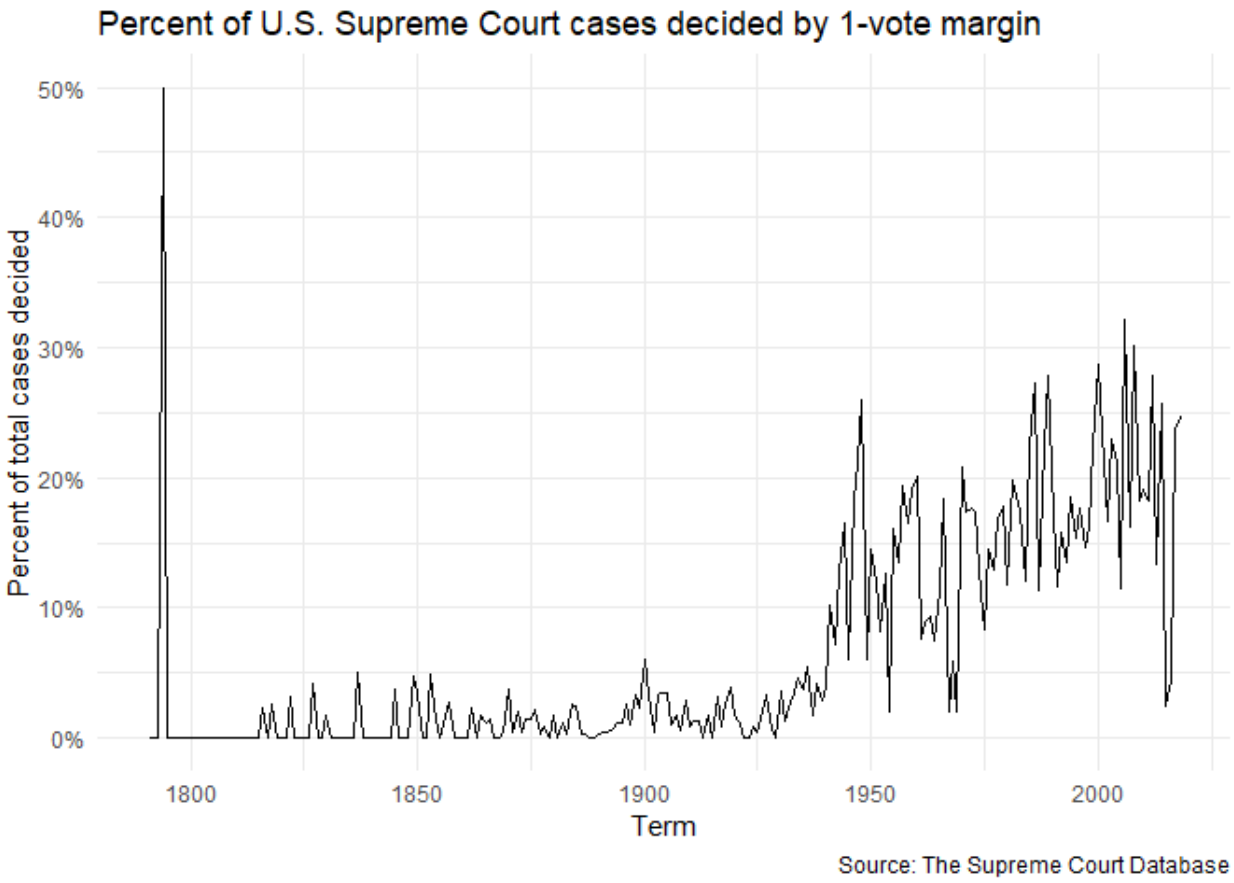
```
#select variables for analysis purpose
scdbv_select <- scdbv%>%
  select(caseIssuesId, term ,justice, justiceName, decisionDirection, majVotes, mi

scdbv_select
```

```
## # A tibble: 252,482 x 11
##    caseIssuesId  term justice justiceName decisionDirecti~ majVotes
##    <chr>        <dbl>   <dbl> <chr>                 <dbl>    <dbl>
##  1 1791-001-01~  1791       1 JJay                      1        5
##  2 1791-001-01~  1791       3 WCushing                  1        5
##  3 1791-001-01~  1791       4 JWilson                   1        5
##  4 1791-001-01~  1791       5 JBlair                    1        5
##  5 1791-001-01~  1791       6 JIredell                  1        5
##  6 1791-002-01~  1791       1 JJay                      2        5
##  7 1791-002-01~  1791       3 WCushing                  2        5
##  8 1791-002-01~  1791       4 JWilson                   2        5
##  9 1791-002-01~  1791       5 JBlair                    2        5
## 10 1791-002-01~  1791       6 JIredell                  2        5
## # ... with 252,472 more rows, and 5 more variables: minVotes <dbl>,
## #   majority <dbl>, chief <chr>, dateDecision <chr>, decisionType <dbl>
```

What percentage of cases in each term are decided by a one-vote margin (i.e. 5-4, 4-3, etc.)

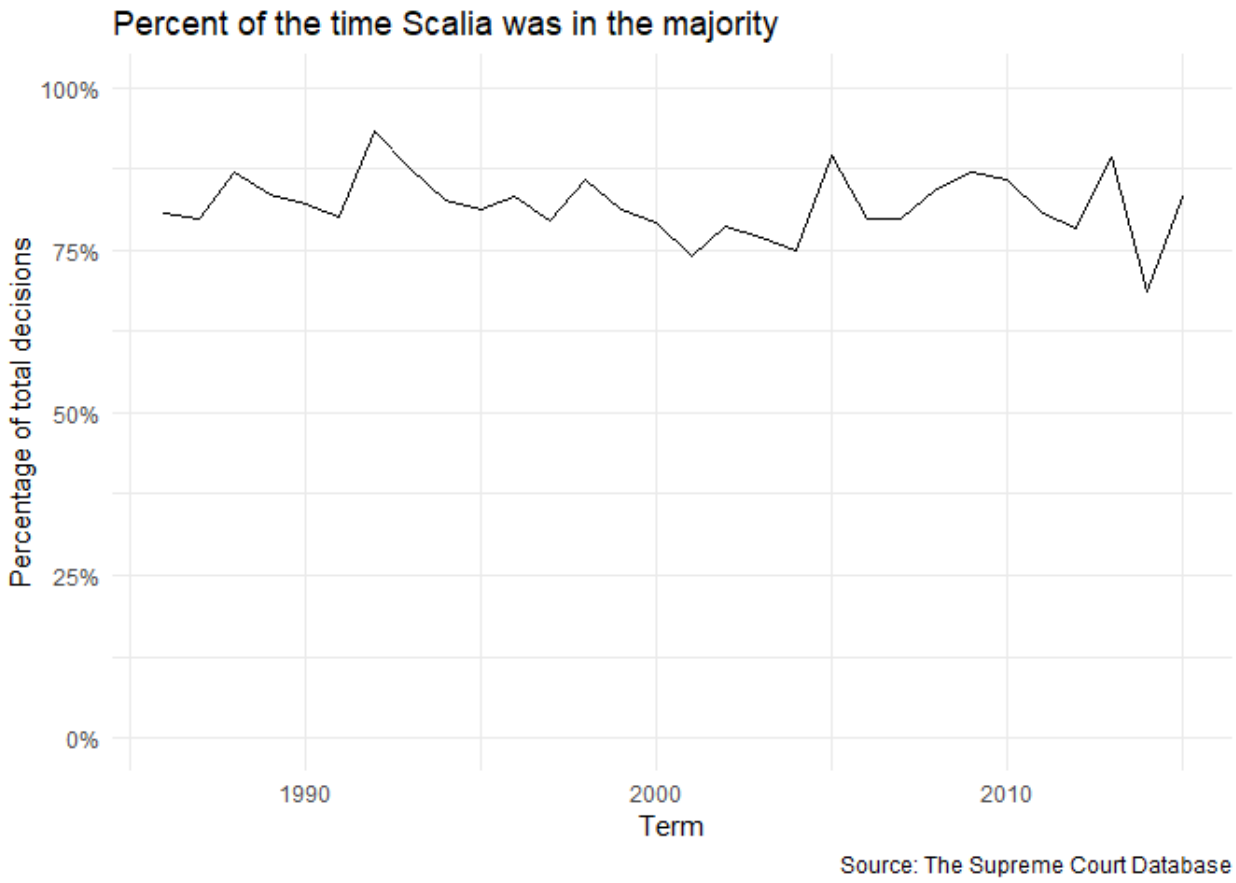
```
scdbv_select %>%
#calculate the margin
  drop_na(majVotes, minVotes) %>%
  mutate(margin = majVotes - minVotes) %>%
  group_by(term) %>%
#calculate the percent
  summarize(percent = sum(margin == 1)/n())%>%
  ggplot(aes(term, percent))+
  geom_line()+
#change the y-axis into percent format
  scale_y_continuous(labels = scales::percent_format(accuracy = 1))+
  labs(title = "Percent of U.S. Supreme Court cases decided by 1-vote margin",
         x = "Term",
         y = "Percent of total cases decided",
         caption = "Source: The Supreme Court Database")
```



Answer: As seen above, the percent of total cases decided by 1-vote margin peaked at 50% around 1800, and stayed relatively constant afterwards until 1925, where an increase trend was shown.

In each term he served on the Court, in what percentage of cases was Justice Antonin Scalia in the majority?

```
scdbv_select %>%
#Justice Antonin Scalia is coded as AScalia in the dataset
  filter(justiceName == "AScalia") %>%
  group_by(term) %>%
#majority is coded 2 in the dataset
  summarize(percent = sum(majority == 2, na.rm = TRUE)/n()) %>%
  ggplot(aes(term, percent))+
  geom_line()+
#change the y-axis into percent format and set its range from 0 to 1.
  scale_y_continuous(labels = scales::percent_format(accuracy = 1),
                     limits = c(0, 1))+
  labs(title = "Percent of the time Scalia was in the majority",
         x = "Term",
         y = "Percentage of total decisions",
         caption = "Source: The Supreme Court Database")
```

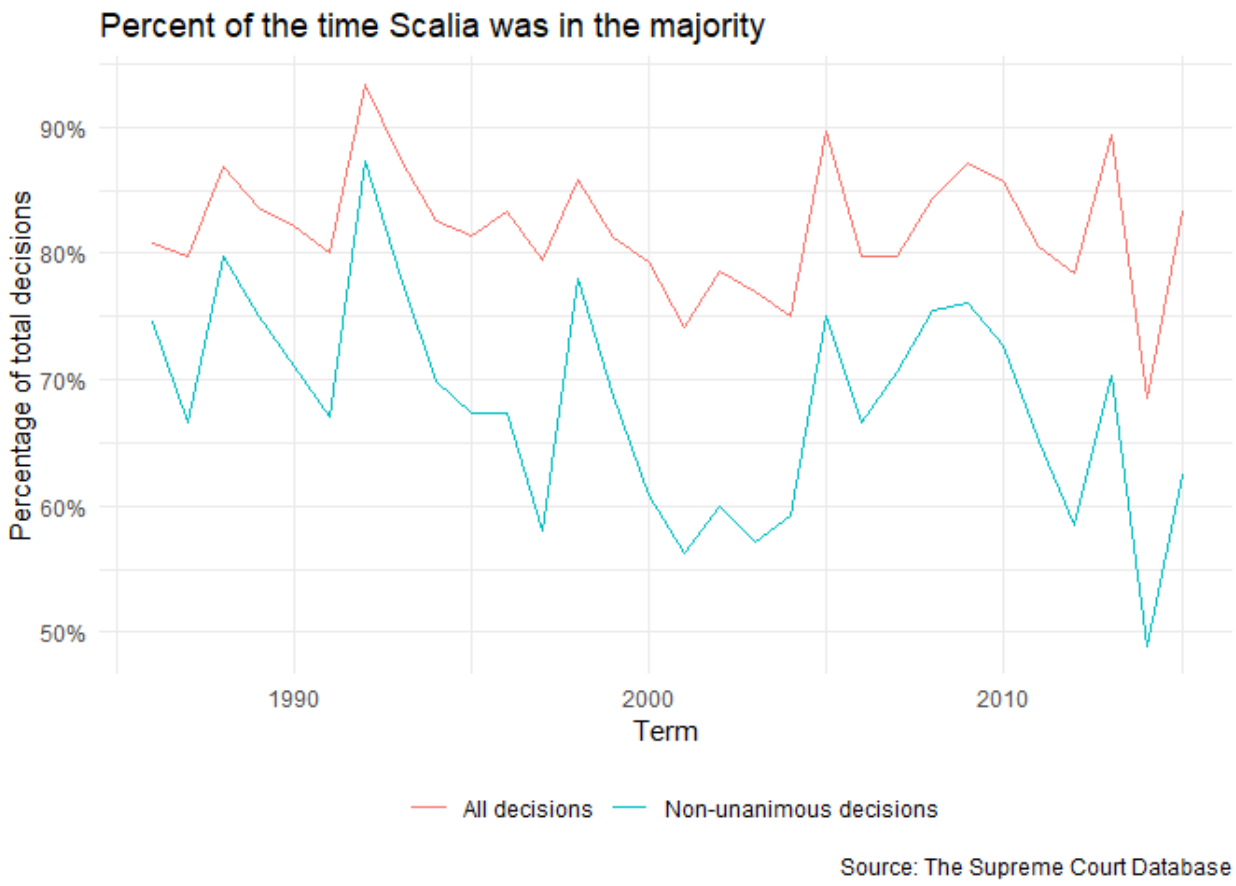


Answer: In terms he served on the Court, Justice Antonin Scalia was in the majority in over 70% cases.

Create a graph similar to above that adds a second component which compares the percentage for all cases versus non-unanimous cases (i.e. there was at least one dissenting vote)

```
scdbv_select %>%
  filter(justiceName == "AScalia") %>%
  group_by(term) %>%
  summarize(percent = sum(majority == 2, na.rm = TRUE)/n(),
#calculate the percent in the non-unanimous cases
#minVotes is coded as the number of votes in dissent
            percent_nu = sum(majority == 2 & minVotes >= 1, na.rm = TRUE)/sum(minV
  ggplot()+
#use color to distinguish two lines
  geom_line(aes(term, percent, color = "All decisions"))+
  geom_line(aes(term, percent_nu, color = "Non-unanimous decisions"))+
  scale_y_continuous(labels = scales::percent_format(accuracy = 1))+
labs(title = "Percent of the time Scalia was in the majority",
         x = "Term",
         y = "Percentage of total decisions",
```

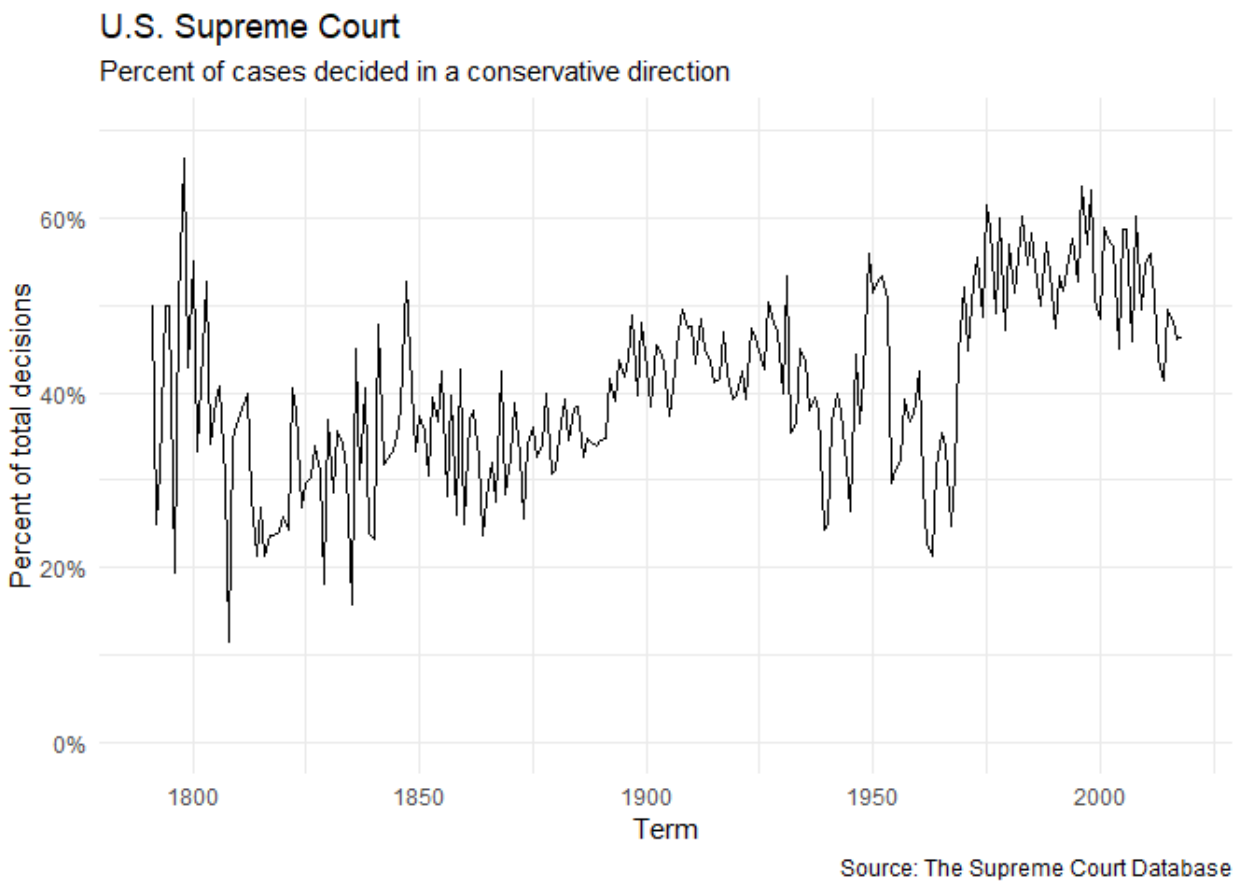
```
        caption = "Source: The Supreme Court Database",
        color = "") +
  theme(legend.position = "bottom")
```



Answer: The graph suggests that Scalia was more likely to stay with majority when there was no dissenting votings.

In each term, what percentage of cases were decided in the conservative direction?

```
scdbv_select %>%
  group_by(term) %>%
#conservative decision is coded 1 in the dataset
  summarize(percent = sum(decisionDirection == 1, na.rm = TRUE)/n()) %>%
  ggplot(aes(term, percent))+
  geom_line()+
  scale_y_continuous(labels = scales::percent_format(accuracy = 1),
                     limits = c(0, 0.7))+
  labs(title = "U.S. Supreme Court",
        subtitle = "Percent of cases decided in a conservative direction",
        x = "Term",
        y = "Percent of total decisions",
        caption = "Source: The Supreme Court Database")
```



Answer: In the given terms, percentage of cases decided in the conservative direction fluctrated between 20% and 60%.

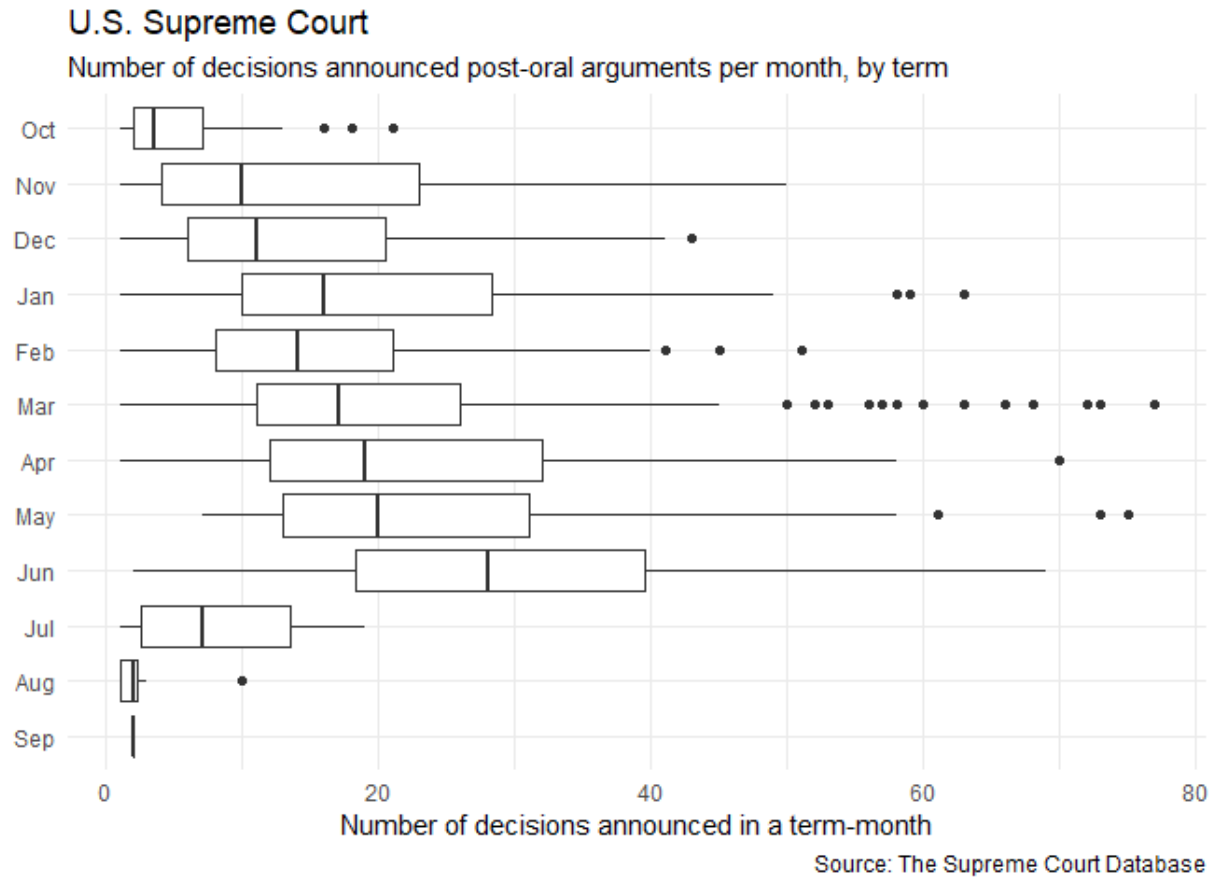
In each term, how many of the term's published decisions (decided after oral arguments) were announced in a given month?

```
#set month levels
#reverse because `coord_flip` is deployed in the following code
month_levels <- rev(c("Oct", "Nov", "Dec","Jan", "Feb", "Mar", "Apr", "May", "Jun"

scdbv_select %>%
#decided after oral arguments is coded 1, 6, 7 in the dataset
  filter(decisionType == c(1, 6, 7)) %>%
#change the data type of dataDecision into date
  mutate(dateDecision = mdy(dateDecision)) %>%
#extract month component from date Decision
  mutate(month = month(dateDecision)) %>%
#group by term-month
  group_by(term, month) %>%
#count by each distinct case id
  summarize(numbers = n_distinct(caseIssuesId)) %>%
#set levels and label them
```

```
  ggplot(aes(factor(month,
                    levels = rev(c(10, 11, 12, 1, 2, 3, 4, 5, 6, 7, 8, 9)),
                    labels = month_levels), numbers))+
  geom_boxplot()+
  coord_flip()+
  labs(title = "U.S. Supreme Court",
         subtitle = "Number of decisions announced post-oral arguments per month,
         x = "",
         y = "Number of decisions announced in a term-month",
         caption = "Source: The Supreme Court Database")
```

```
## Warning in decisionType == c(1, 6, 7): longer object length is not a
## multiple of shorter object length
```



Answer: As shown above, the third quarter saw least number of decision announced post-oral arguments, while the second quarter, especially June, was where most published decisions were annonuced through out the year.

Session info

```
devtools::session_info()
```

```
## - Session info ---------------------------------------------------------
##  setting  value
##  version  R version 3.6.1 (2019-07-05)
##  os       Windows 10 x64
##  system   x86_64, mingw32
##  ui       RTerm
##  language (EN)
##  collate  English_United States.1252
##  ctype    English_United States.1252
##  tz       America/Chicago
##  date     2019-10-20
##
## - Packages -------------------------------------------------------------
##  package     * version date       lib source
##  assertthat    0.2.1   2019-03-21 [1] CRAN (R 3.6.1)
##  backports     1.1.5   2019-10-02 [1] CRAN (R 3.6.1)
##  broom         0.5.2   2019-04-07 [1] CRAN (R 3.6.1)
##  callr         3.3.2   2019-09-22 [1] CRAN (R 3.6.1)
##  cellranger    1.1.0   2016-07-27 [1] CRAN (R 3.6.1)
##  cli           1.1.0   2019-03-19 [1] CRAN (R 3.6.1)
##  colorspace    1.4-1   2019-03-18 [1] CRAN (R 3.6.1)
##  crayon        1.3.4   2017-09-16 [1] CRAN (R 3.6.1)
##  desc          1.2.0   2018-05-01 [1] CRAN (R 3.6.1)
##  devtools      2.2.1   2019-09-24 [1] CRAN (R 3.6.1)
##  digest        0.6.21  2019-09-20 [1] CRAN (R 3.6.1)
##  dplyr       * 0.8.3   2019-07-04 [1] CRAN (R 3.6.1)
##  ellipsis      0.3.0   2019-09-20 [1] CRAN (R 3.6.1)
##  evaluate      0.14    2019-05-28 [1] CRAN (R 3.6.1)
##  fansi         0.4.0   2018-10-05 [1] CRAN (R 3.6.1)
##  forcats     * 0.4.0   2019-02-17 [1] CRAN (R 3.6.1)
##  fs            1.3.1   2019-05-06 [1] CRAN (R 3.6.1)
##  generics      0.0.2   2018-11-29 [1] CRAN (R 3.6.1)
##  ggplot2     * 3.2.1   2019-08-10 [1] CRAN (R 3.6.1)
##  glue          1.3.1   2019-03-12 [1] CRAN (R 3.6.1)
##  gtable        0.3.0   2019-03-25 [1] CRAN (R 3.6.1)
##  haven         2.1.1   2019-07-04 [1] CRAN (R 3.6.1)
##  hms           0.5.1   2019-08-23 [1] CRAN (R 3.6.1)
##  htmltools     0.3.6   2017-04-28 [1] CRAN (R 3.6.1)
##  httr          1.4.1   2019-08-05 [1] CRAN (R 3.6.1)
##  jsonlite      1.6     2018-12-07 [1] CRAN (R 3.6.1)
##  knitr         1.25    2019-09-18 [1] CRAN (R 3.6.1)
##  labeling      0.3     2014-08-23 [1] CRAN (R 3.6.0)
##  lattice       0.20-38 2018-11-04 [1] CRAN (R 3.6.1)
##  lazyeval      0.2.2   2019-03-15 [1] CRAN (R 3.6.1)
##  lifecycle     0.1.0   2019-08-01 [1] CRAN (R 3.6.1)
##  lubridate   * 1.7.4   2018-04-11 [1] CRAN (R 3.6.1)
##  magrittr      1.5     2014-11-22 [1] CRAN (R 3.6.1)
##  memoise       1.1.0   2017-04-21 [1] CRAN (R 3.6.1)
##  modelr        0.1.5   2019-08-08 [1] CRAN (R 3.6.1)
##  munsell       0.5.0   2018-06-12 [1] CRAN (R 3.6.1)
##  nlme          3.1-140 2019-05-12 [1] CRAN (R 3.6.1)
##  pillar        1.4.2   2019-06-29 [1] CRAN (R 3.6.1)
##  pkgbuild      1.0.5   2019-08-26 [1] CRAN (R 3.6.1)
##  pkgconfig     2.0.3   2019-09-22 [1] CRAN (R 3.6.1)
##  pkgload       1.0.2   2018-10-29 [1] CRAN (R 3.6.1)
```

```
##  pkgload       1.0.2   2018-10-29 [1] CRAN (R 3.6.1)
##  prettyunits   1.0.2   2015-07-13 [1] CRAN (R 3.6.1)
##  processx      3.4.1   2019-07-18 [1] CRAN (R 3.6.1)
##  ps            1.3.0   2018-12-21 [1] CRAN (R 3.6.1)
##  purrr       * 0.3.2   2019-03-15 [1] CRAN (R 3.6.1)
##  R6            2.4.0   2019-02-14 [1] CRAN (R 3.6.1)
##  Rcpp          1.0.2   2019-07-25 [1] CRAN (R 3.6.1)
##  readr       * 1.3.1   2018-12-21 [1] CRAN (R 3.6.1)
##  readxl        1.3.1   2019-03-13 [1] CRAN (R 3.6.1)
##  remotes       2.1.0   2019-06-24 [1] CRAN (R 3.6.1)
##  rlang         0.4.0   2019-06-25 [1] CRAN (R 3.6.1)
##  rmarkdown     1.16    2019-10-01 [1] CRAN (R 3.6.1)
##  rprojroot     1.3-2   2018-01-03 [1] CRAN (R 3.6.1)
##  rstudioapi    0.10    2019-03-19 [1] CRAN (R 3.6.1)
##  rvest         0.3.4   2019-05-15 [1] CRAN (R 3.6.1)
##  scales        1.0.0   2018-08-09 [1] CRAN (R 3.6.1)
##  sessioninfo   1.1.1   2018-11-05 [1] CRAN (R 3.6.1)
##  stringi       1.4.3   2019-03-12 [1] CRAN (R 3.6.0)
##  stringr     * 1.4.0   2019-02-10 [1] CRAN (R 3.6.1)
##  testthat      2.2.1   2019-07-25 [1] CRAN (R 3.6.1)
##  tibble      * 2.1.3   2019-06-06 [1] CRAN (R 3.6.1)
##  tidyr       * 1.0.0   2019-09-11 [1] CRAN (R 3.6.1)
##  tidyselect    0.2.5   2018-10-11 [1] CRAN (R 3.6.1)
##  tidyverse   * 1.2.1   2017-11-14 [1] CRAN (R 3.6.1)
##  usethis       1.5.1   2019-07-04 [1] CRAN (R 3.6.1)
##  utf8          1.1.4   2018-05-24 [1] CRAN (R 3.6.1)
##  vctrs         0.2.0   2019-07-05 [1] CRAN (R 3.6.1)
##  withr         2.1.2   2018-03-15 [1] CRAN (R 3.6.1)
##  xfun          0.10    2019-10-01 [1] CRAN (R 3.6.1)
##  xml2          1.2.2   2019-08-09 [1] CRAN (R 3.6.1)
##  yaml          2.2.0   2018-07-25 [1] CRAN (R 3.6.0)
##  zeallot       0.1.0   2018-01-28 [1] CRAN (R 3.6.1)
##
## [1] D:/Tools/R-3.6.1/library
```