Assignment 1

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```r
# Installing necessary package(s)
install.packages("ggplot2") # to use ggplot visualization tools
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.5'
## (as 'lib' is unspecified)
```

```r
install.packages("dplyr") # to use the new pipe (|>) operator and perform data
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.5'
## (as 'lib' is unspecified)
```

```r
# manipulation operations
install.packages("tidyverse")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.5'
## (as 'lib' is unspecified)
```

```r
library(ggplot2)
library(dplyr)
```

```
##
## 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(tidyverse)
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v forcats   1.0.1     v stringr   1.5.2
## v lubridate 1.9.4     v tibble    3.3.0
## v purrr     1.1.0     v tidyr     1.3.1
## v readr     2.1.5
```

```
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

Dataset

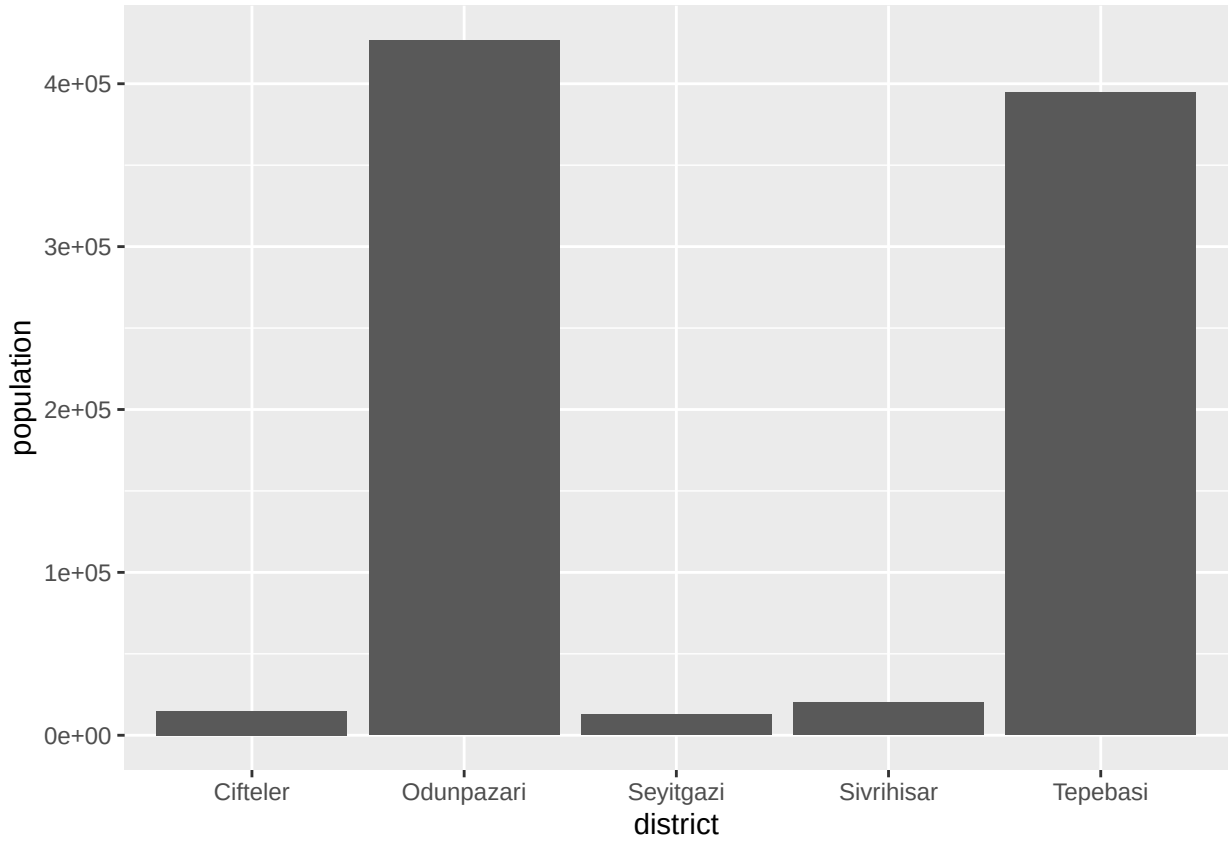
The dataset `eskisehir` contains the total population for the top-5 crowded districts of Eskisehir in 2024.

```r
eskisehir <- data.frame(
  district   = c("Odunpazari", "Tepebasi", "Sivrihisar", "Cifteler", "Seyitgazi"),
  population = c(426581, 394734, 20258, 14814, 12878))
```

Drawing a barplot

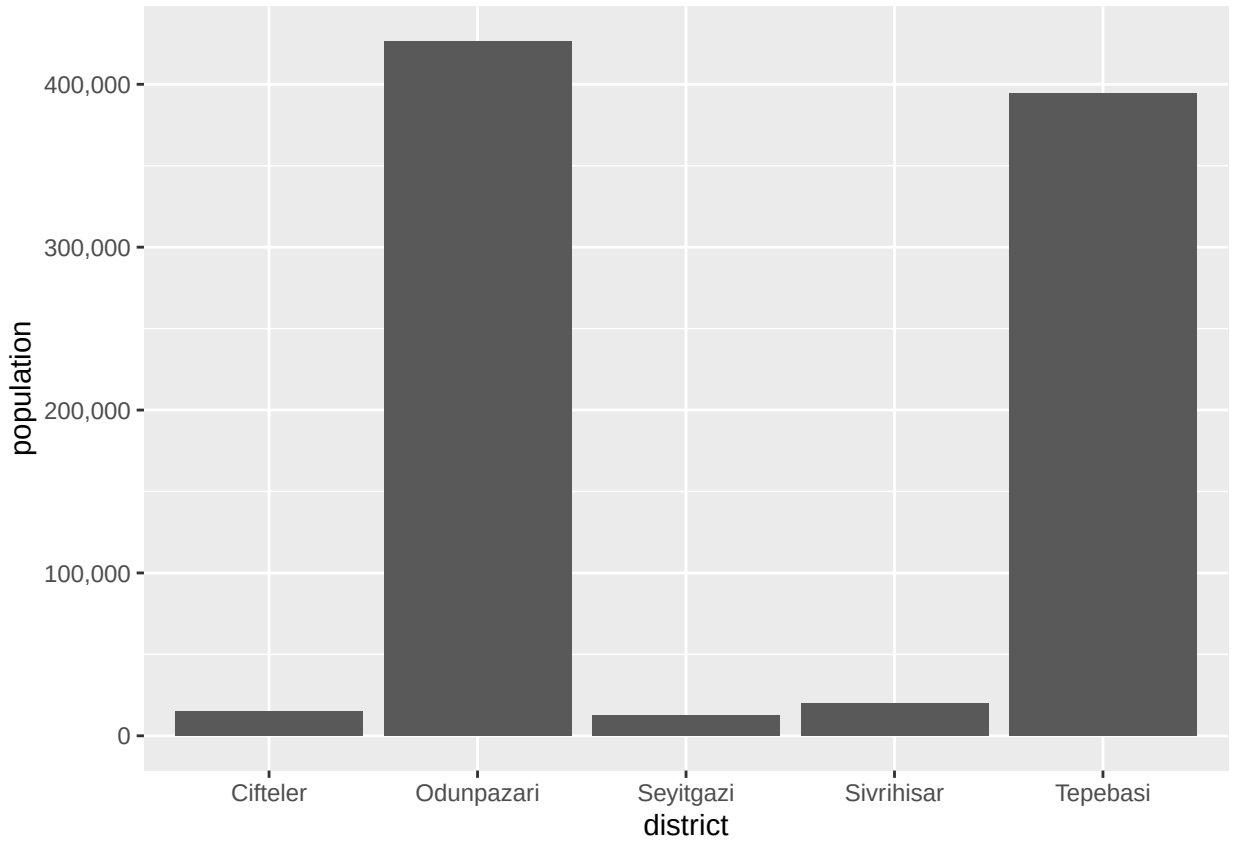
1. Please draw a boxplot to visualize the population of districts (20 pts).

```r
ggplot(eskisehir,aes(x = district, y = population)) +
  geom_bar(stat = "identity")
```

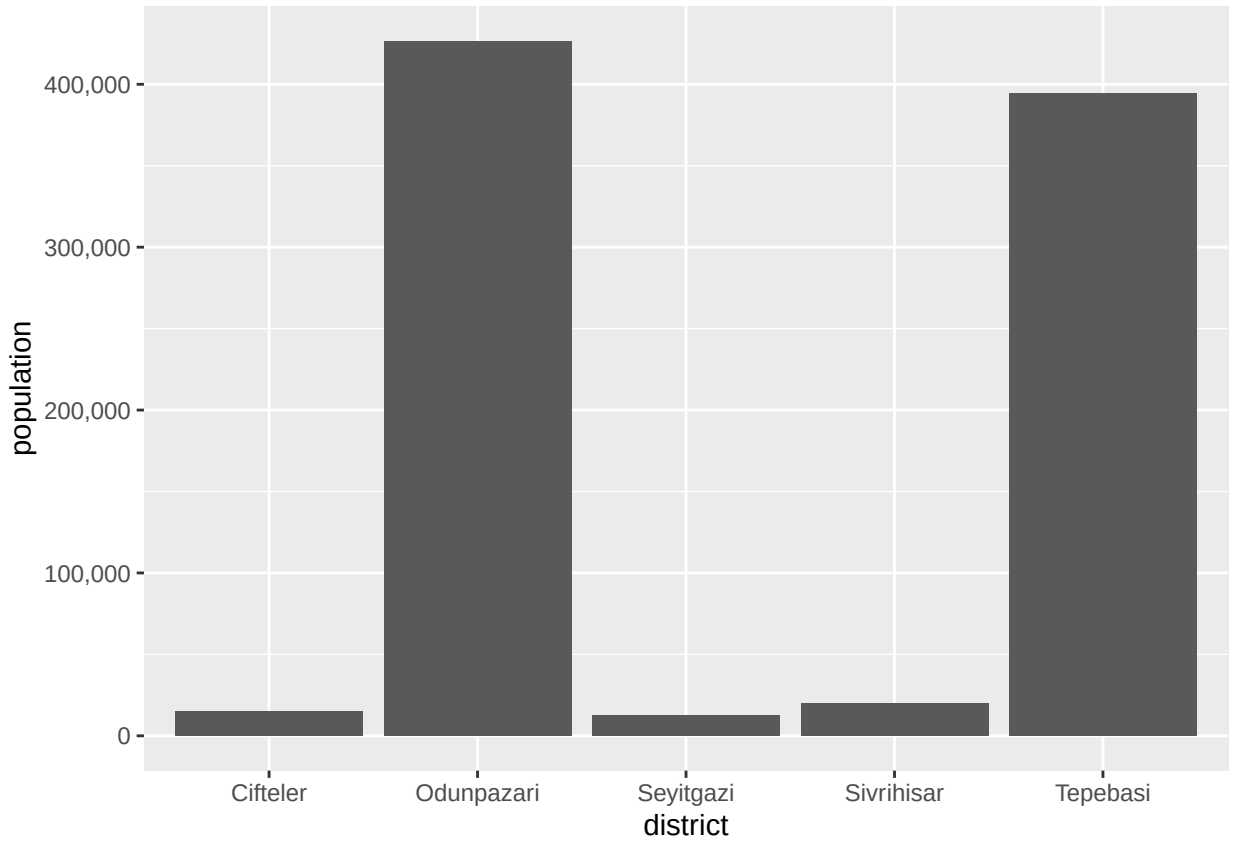


2. Please solve the problems in the plot to make it better (20 pts).

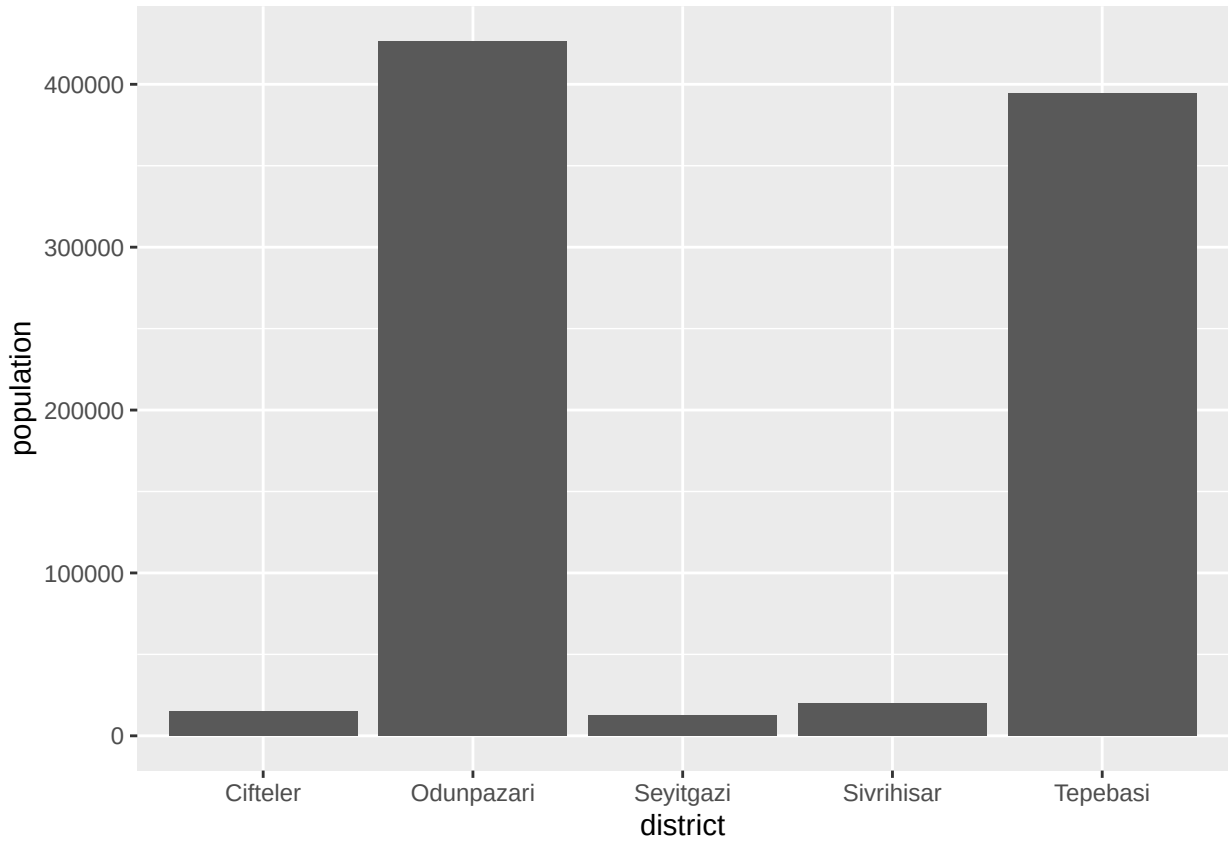
```r
ggplot(eskisehir,aes(x = district, y = population)) +
  geom_bar(stat = "identity")+
  scale_y_continuous(labels = scales::comma)
```




```
ggplot(eskisehir,aes(x = district, y = population)) +
  geom_bar(stat = "identity") +
  scale_y_continuous(labels = scales::comma)
```

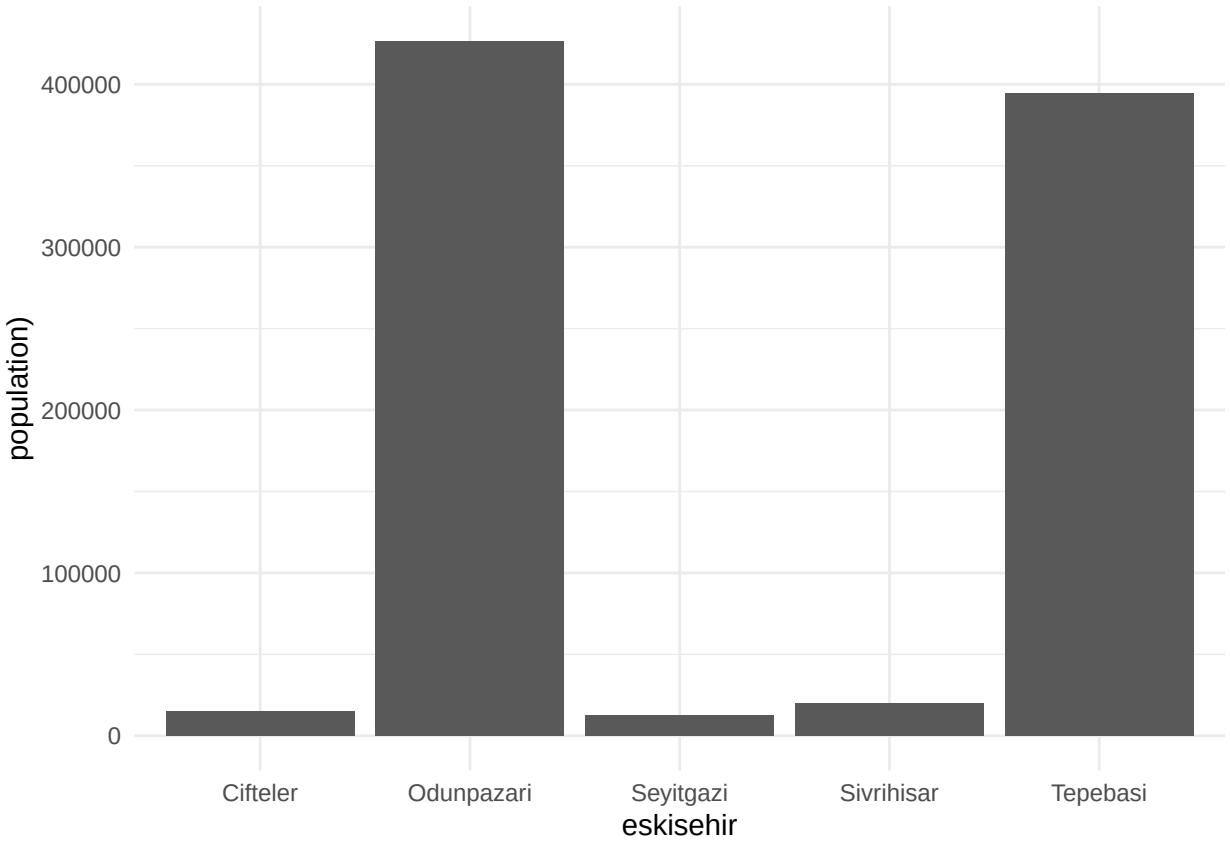



```
ggplot(eskisehir,aes(x = district, y = population)) +
  geom_bar(stat = "identity") +
  scale_y_continuous(labels = function(x) format(x, scientific = FALSE))
```



3. Then configure the plot to present it in a better way (40 pts). You can use the tricks that you learned in the lecture.

```
ggplot(eskisehir,aes(x = district, y = population)) +
  geom_bar(stat = "identity") +
  scale_y_continuous(labels = function(x) format(x, scientific = FALSE)) +
  labs(x       = "eskisehir",
       y       = "population)") +
  theme_minimal()
```



4. Interpret the plot (20 pts). It must be about the information of the district populations not the technical part of the plot.

according to boxplot given data from eskisehir;ı can say odunpazarı and tepebası have more populations than others the most crowded district is odunpazarı and the cities district is more changeble an concentration 2 district maybe this district more advantable than ...