CreatingMapsR

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```
library(viridis)
library(ggrepel)
library(geosphere)
library(maps)
library(ggmap)
library(rworldmap)
library(dplyr)
library(tidyr)
library(knitr)
library(ggplot2)
library(rmarkdown)
library(shiny)
library(lubridate)
library(dygraphs)
# setting working directory
setwd("F:/ders/3rd_class/IE421 Data Science for Engineers/working directory")
```

```
map <- get_stamenmap(bbox = c(left = 22 , bottom = 33 , right = 50 , top = 44) , zoom = 5 , m
aptype = "watercolor")


ggmap(map) + theme_void()
```

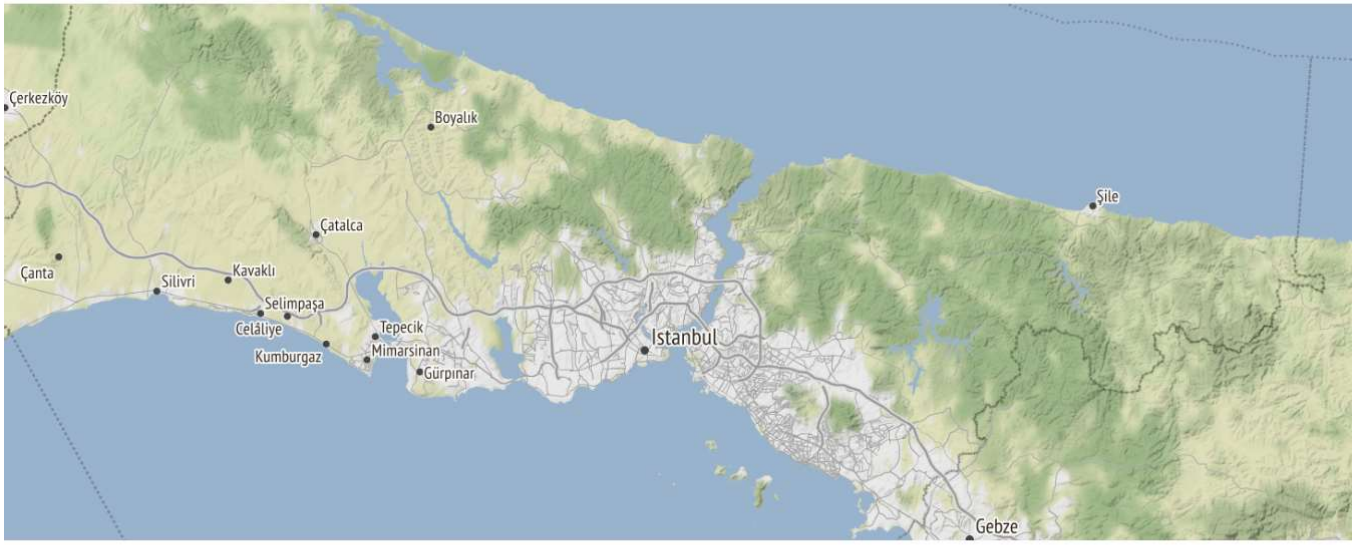
```
map2 <- get_stamenmap(bbox = c(bottom = 33 , left = 22 , right = 50 , top = 44), zoom = 6  ,
 maptype = "toner-lite")



ggmap(map2) + theme_void() + theme(
  panel.border = element_rect(colour = "grey" , fill = NA , size = 2)
)
```


```
map3 <- get_stamenmap(bbox = c(bottom = 40.8 , left = 28 , right = 30 , top = 41.4) , zoom = 10 , maptype = "terrain")


ggmap(map3) + theme_void()
```



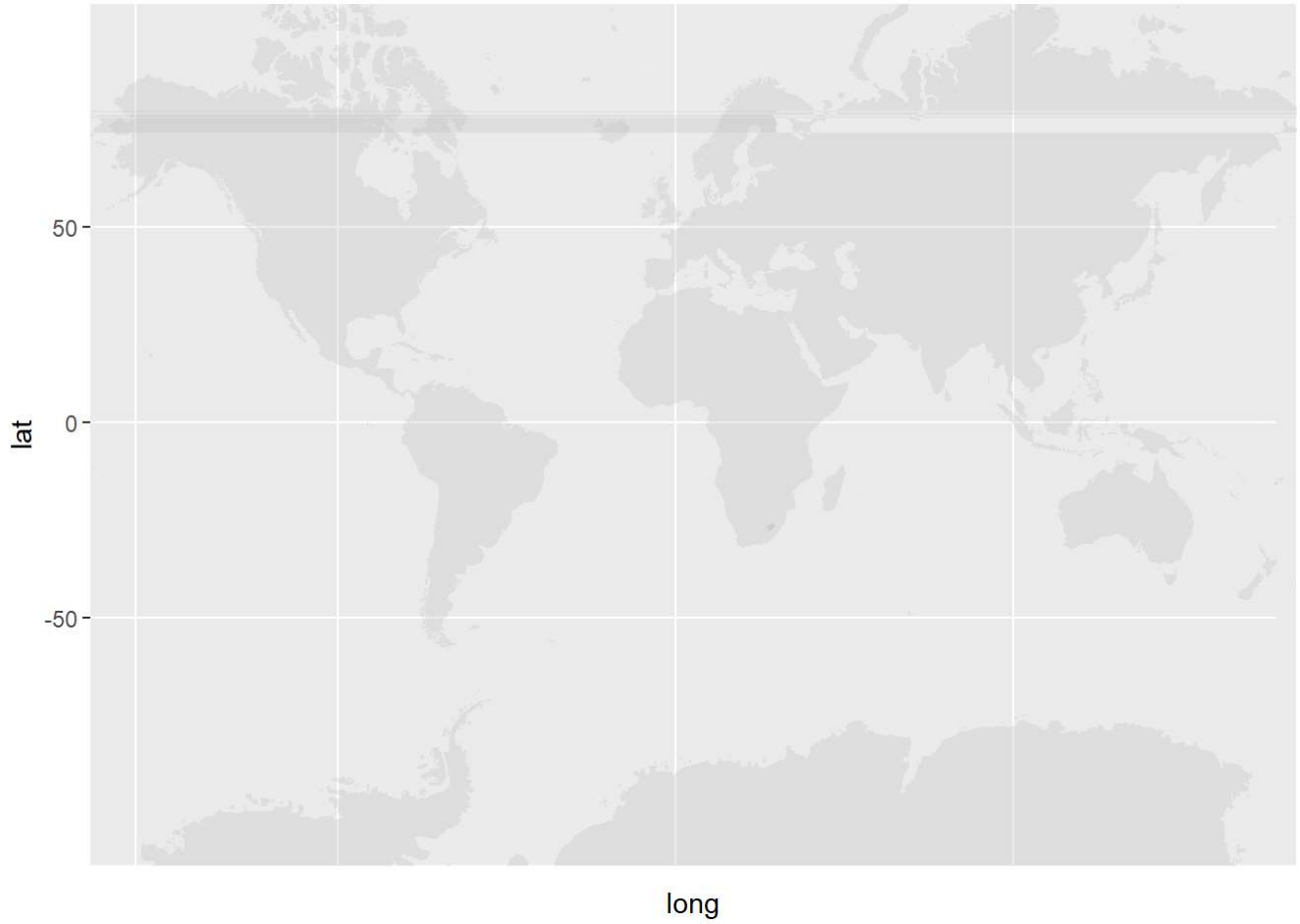

```
World <- map_data("world")
dim(World)
```

```
## [1] 99338     6
```

```
kable(head(World))
```

long	lat	group	order	region	subregion
-69.89912	12.45200	1	1	Aruba	NA
-69.89571	12.42300	1	2	Aruba	NA
-69.94219	12.43853	1	3	Aruba	NA
-70.00415	12.50049	1	4	Aruba	NA
-70.06612	12.54697	1	5	Aruba	NA
-70.05088	12.59707	1	6	Aruba	NA

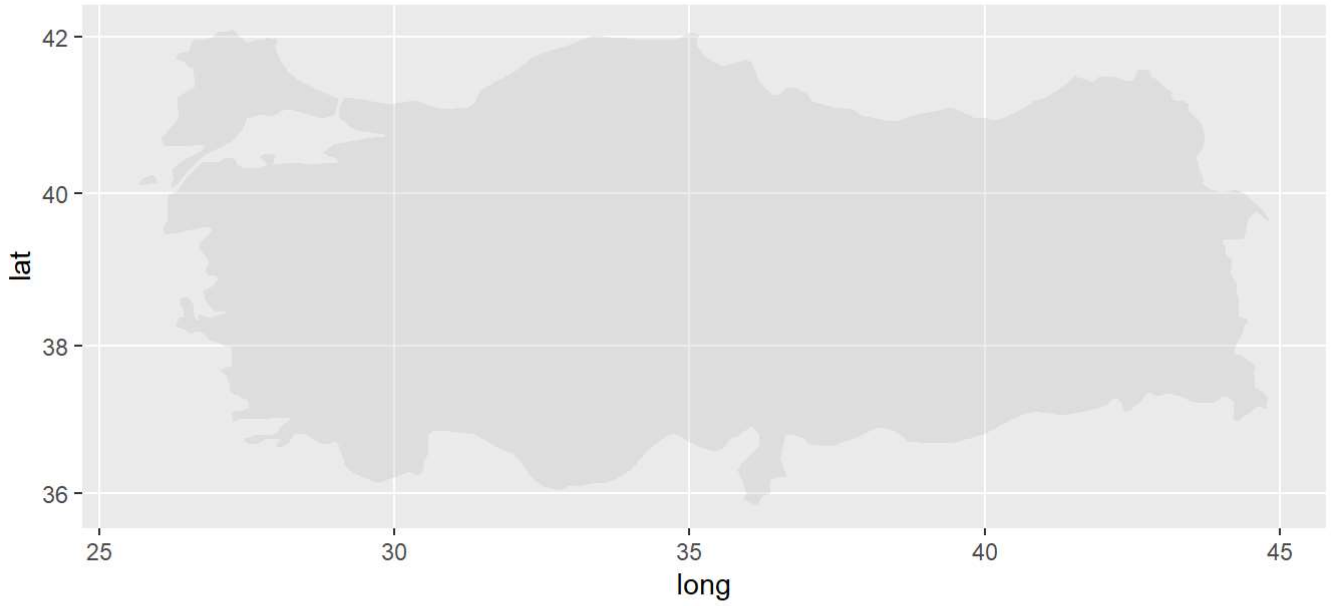
```
ggplot() +
  geom_polygon(data = World , aes(x = long , y = lat , group = group) , fill = "grey" , alpha
= 0.3)  +
  coord_map()
```




```
Turkey <- map_data("world") %>% filter(region == "Turkey")
dim(Turkey)
```

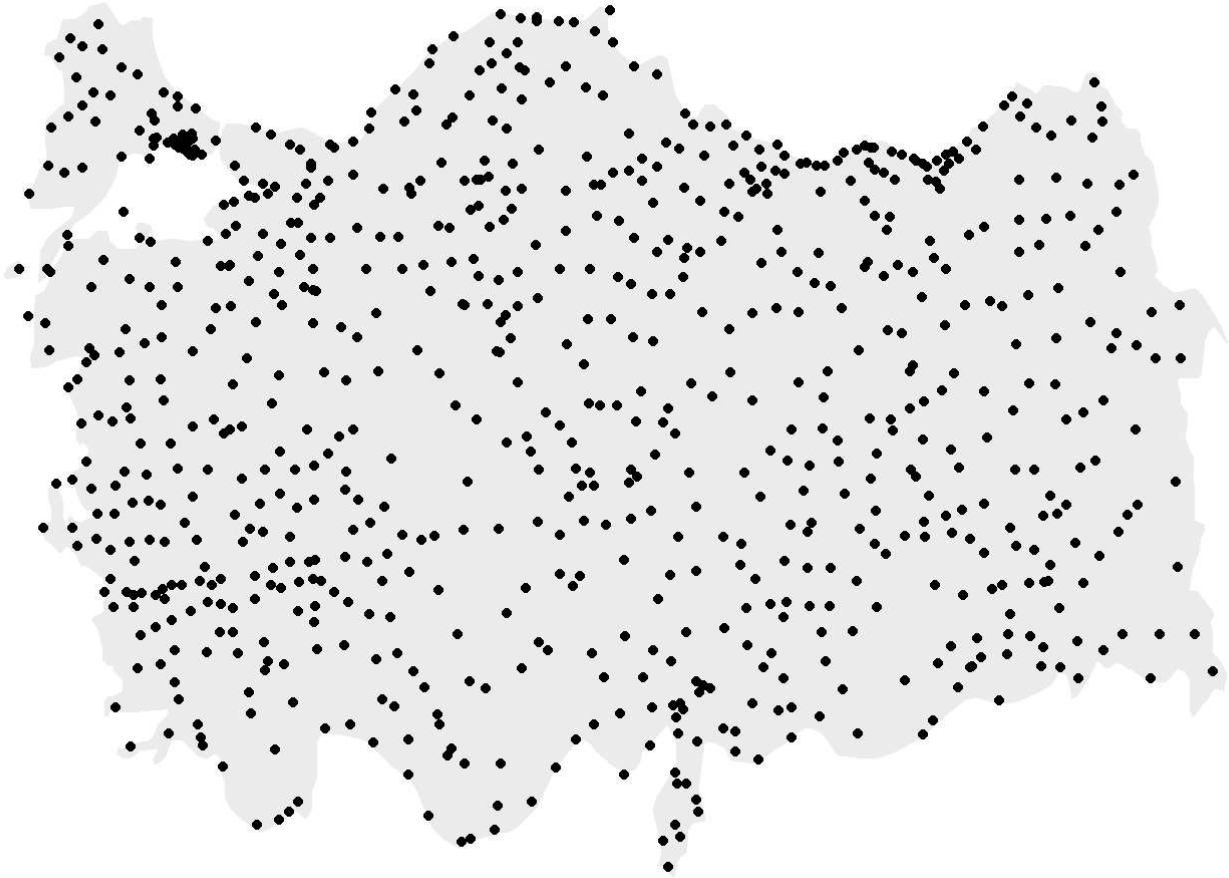
```
## [1] 562   6
```

```
ggplot() +
  geom_polygon(data = Turkey , aes(x = long , y = lat , group = group) , fill = "grey" , alph
a = 0.3) +
  coord_map()
```




```
TRcities <- world.cities %>% filter(country.etc == "Turkey")
```

```
ggplot() +
  geom_polygon(data = Turkey , aes(x = long , y = lat , group = group) ,
               fill = "grey" , alpha = 0.3) +
  geom_point(data = TRcities , aes(x = long , y = lat)) +
  theme_void()
```



```
ggplot() +
  geom_polygon(data = Turkey , aes(x = long , y = lat , group = group) ,
               fill = "grey" , alpha = 0.3) +
  geom_text_repel(data = TRcities %>% arrange(desc(pop)) %>% head(10) ,
                  aes(x = long , y = lat , label = name) , size = 5)+
  geom_point(data = TRcities %>% arrange(desc(pop)) %>% head(10) , aes(x = long , y = lat) ,
 color = "red" , size = 3) +
  theme_void()
```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