

Yaşam Maliyeti

```
options(repos = list(CRAN="http://cran.rstudio.com/"))  
install.packages("ggplot2")
```

package 'ggplot2' successfully unpacked and MD5 sums checked

The downloaded binary packages are in
C:\Users\serca\AppData\Local\Temp\RtmpYBmOgt\downloaded_packages

```
install.packages("tidyverse")
```

package 'tidyverse' successfully unpacked and MD5 sums checked

The downloaded binary packages are in
C:\Users\serca\AppData\Local\Temp\RtmpYBmOgt\downloaded_packages

```
install.packages("dplyr")
```

package 'dplyr' successfully unpacked and MD5 sums checked

The downloaded binary packages are in
C:\Users\serca\AppData\Local\Temp\RtmpYBmOgt\downloaded_packages

```
library(ggplot2)  
library(tidyverse)  
library(dplyr)
```

```

library(readxl)
data <- read_excel("C:/Users/serca/Desktop/Yeni Microsoft Excel Çalışma Sayfası (3).xlsx",
  col_types = c("skip", "text", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric",
    "numeric", "numeric", "numeric"))

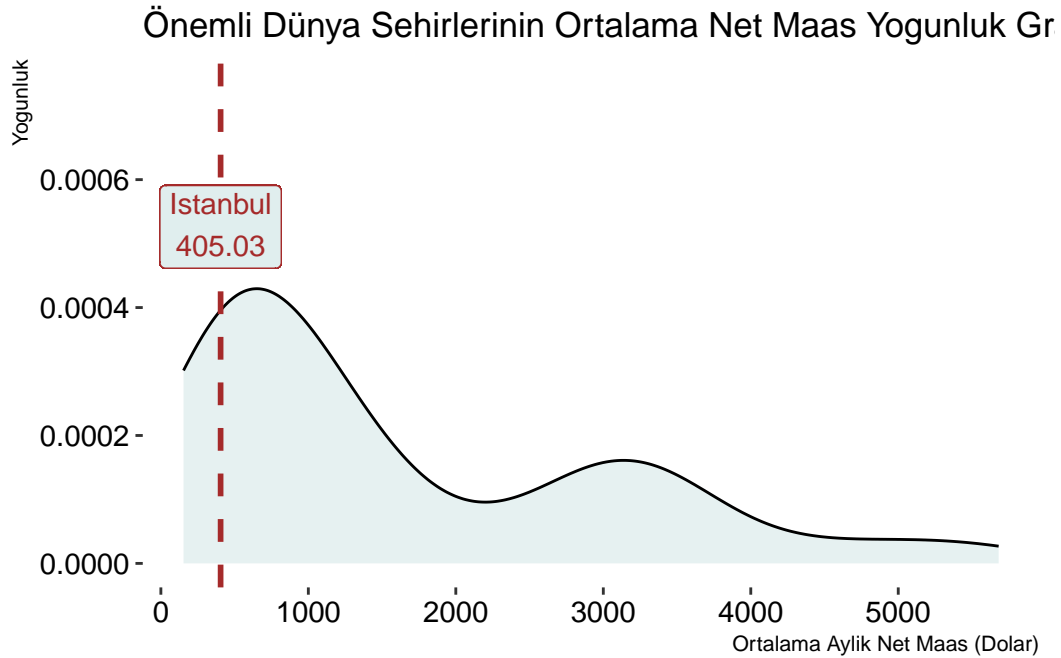
graph1 <- ggplot(data, aes(x = data$`Average Monthly Net Salary (After Tax)`))+
  geom_density(fill="azure2", color="black", alpha=0.8)+
  geom_vline(aes(xintercept=405),
    color="brown", linetype="dashed", size=1)+
  geom_label(aes(x=405.03, label="İstanbul\n405.03", y=0.00072), colour="brown",
    vjust = 2, text=element_text(size=0.7), geom="label", fill = "azure2")+
  scale_x_continuous(breaks = seq(0,6000,1000))+
  scale_y_continuous(limits = c(0,0.00075),labels = scales::comma)+
  theme(legend.background = element_rect(fill = "transparent"),
    legend.box.background = element_rect(fill = "transparent"),
    panel.background = element_rect(fill = "transparent"),
    panel.grid.major = element_blank(),
    panel.grid.minor = element_blank(),
    plot.background = element_rect(fill = "transparent", color = NA),
    axis.title.y = element_text(hjust = 1, size = 8),
    axis.title.x = element_text(hjust = 1, size = 8),
    axis.text = element_text(colour = "black", size = 11))+
  labs(x = "Ortalama Aylık Net Maaş (Dolar)",
    y = "Yoğunluk",

```

```

    title = "Önemli Dünya Şehirlerinin Ortalama Net Maaş Yoğunluk Grafiği")
  ggsave(graph1, filename = "graph1.png",
    bg = "transparent",
    width = 6.5, height = 3.5, dpi = 3000)
graph1

```



```

data2 <- filter(data, data$City == 'Istanbul, Turkey' |
  data$City == 'Paris, France' |
  data$City == 'London, United Kingdom' |
  data$City == 'New York, NY, United States' |
  data$City == 'Moscow, Russia' |
  data$City == 'Toronto, Canada' |
  data$City == 'Tokyo, Japan' |
  data$City == 'Berlin, Germany' |
  data$City == 'Nairobi, Kenya' |
  data$City == 'Kiev (Kyiv), Ukraine')

```

```

c <- data2$`Average Monthly Net Salary (After Tax)`/data2$`McMeal at McDonalds (or Equivalent)
graph2 <- ggplot(data2, aes(reorder(x = data2$City, +c),
  y = c, fill = factor(if_else(

```

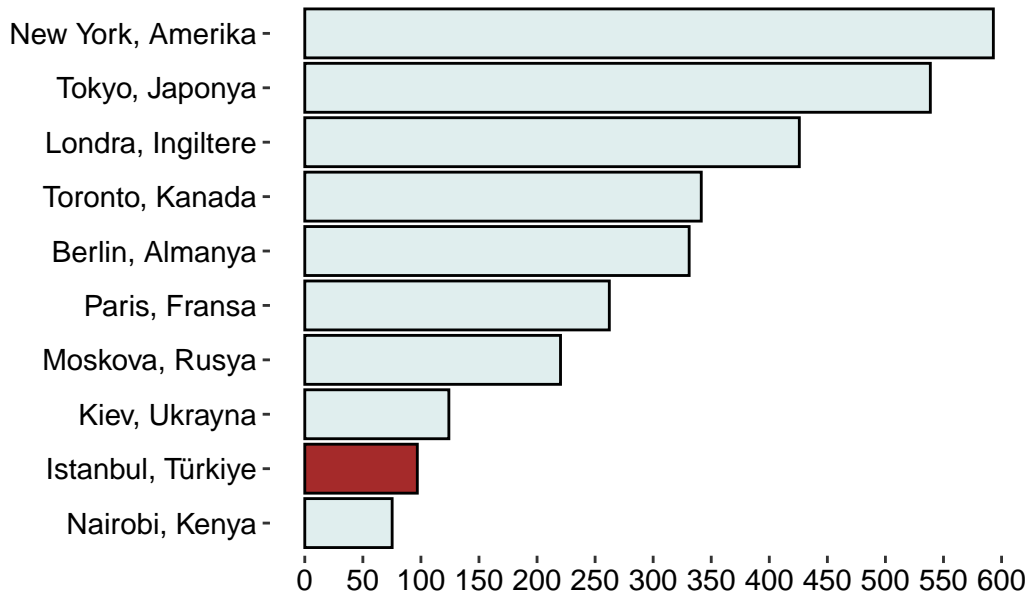
```

        data2$City=="Istanbul, Turkey","Highlighted","Normal")))))+
geom_bar(stat = "identity", color = "black")+
scale_fill_manual(name = "City", values=c("brown","azure2"))+
coord_flip()+
scale_y_continuous(breaks = seq(0,600,50), limits=c(0,600))+
scale_x_discrete(
breaks = c ("New York, NY, United States" ,"London, United Kingdom" ,
            "Paris, France","Toronto, Canada" , "Tokyo, Japan",
            "Berlin, Germany" , "Moscow, Russia", "Istanbul, Turkey" ,
            "Kiev (Kyiv), Ukraine" , "Nairobi, Kenya") ,
labels= c("New York, Amerika" , "Londra, İngiltere" , "Paris, Fransa",
            "Toronto, Kanada" , "Tokyo, Japonya", "Berlin, Almanya",
            "Moskova, Rusya", "İstanbul, Türkiye", "Kiev, Ukrayna",
            "Nairobi, Kenya" ))+
theme(legend.background = element_rect(fill = "transparent"),
      legend.box.background = element_rect(fill = "transparent"),
      panel.background = element_rect(fill = "transparent"),
      panel.grid.major = element_blank(),
      panel.grid.minor = element_blank(),
      plot.background = element_rect(fill = "transparent", color = NA),
      legend.position = "none",
      axis.title = element_blank(),
      axis.text = element_text(colour = "black", size = 11))+
labs(title = "Ortalama Bir Maaş İle Alınabilen BigMac Sayıları")

ggsave(graph2, filename = "graph2.png",
      bg = "transparent",
      width = 6.5, height = 3, dpi = 3000)
graph2

```

Ortalama Bir Maas Ile Alinabilen BigMac Sayilari



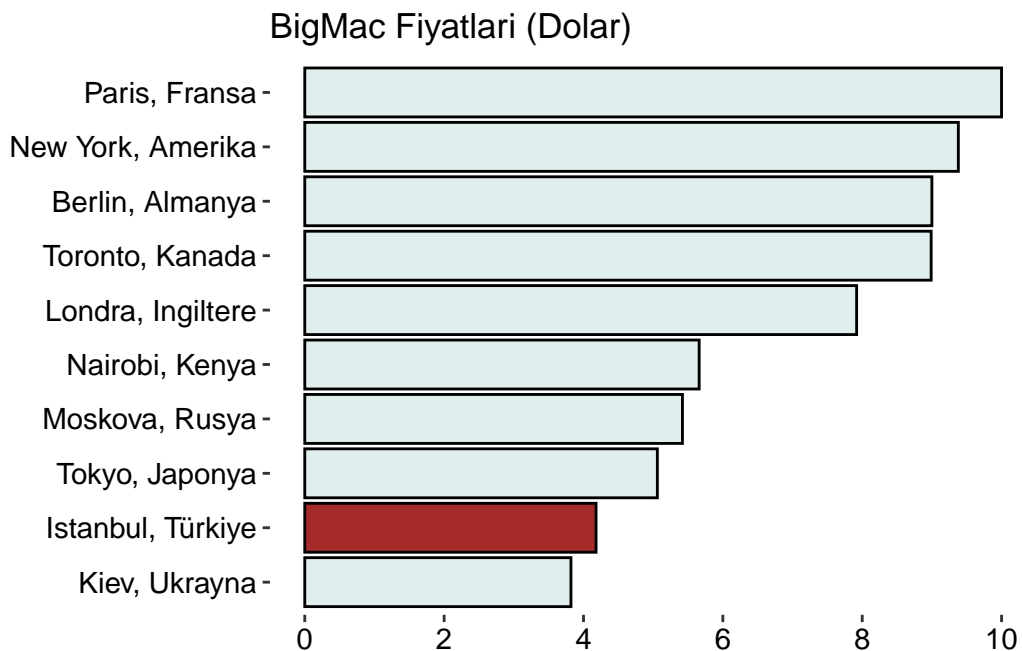
```
graph3 <- ggplot(data2, aes(reorder(
  x = data2$City,
  +data2$`McMeal at McDonalds (or Equivalent Combo Meal)`),
  y = data2$`McMeal at McDonalds (or Equivalent Combo Meal)`),
  fill=factor(if_else(
    data2$City=="Istanbul, Turkey","Highlighted","Normal"))))+
geom_bar(stat = "identity", color = "black")+
scale_fill_manual(name = "City", values=c("brown","azure2"))+
coord_flip()+
scale_y_continuous(breaks = seq(0,10,2), limits=c(0,10))+
scale_x_discrete(
breaks = c ("New York, NY, United States" ,"London, United Kingdom" ,
  "Paris, France","Toronto, Canada" , "Tokyo, Japan",
  "Berlin, Germany" , "Moscow, Russia", "Istanbul, Turkey" ,
  "Kiev (Kyiv), Ukraine" , "Nairobi, Kenya") ,
labels= c("New York, Amerika" , "Londra, İngiltere" , "Paris, Fransa",
  "Toronto, Kanada" , "Tokyo, Japonya", "Berlin, Almanya",
  "Moskova, Rusya", "İstanbul, Türkiye", "Kiev, Ukrayna",
  "Nairobi, Kenya" ))+
theme(legend.background = element_rect(fill = "transparent"),
  legend.box.background = element_rect(fill = "transparent"),
```

```

panel.background = element_rect(fill = "transparent"),
panel.grid.major = element_blank(),
panel.grid.minor = element_blank(),
plot.background = element_rect(fill = "transparent", color = NA),
legend.position = "none",
axis.title = element_blank(),
axis.text = element_text(colour = "black", size = 11))+
labs(title = "BigMac Fiyatları (Dolar)")

ggsave(graph3, filename = "graph3.png",
       bg = "transparent",
       width = 6.5, height = 3, dpi = 3000)
graph3

```



```

graph4 <- ggplot(data2, aes(reorder(x = data2$City,
                                   +data2$`Apartment (3 bedrooms) in City Centre`),
                           y = data2$`Apartment (3 bedrooms) in City Centre`,
                           fill=factor(if_else(
                                   data2$City=="Istanbul, Turkey", "Highlighted", "Normal")))) +
geom_bar(stat = "identity", color = "black") +
scale_fill_manual(name = "City", values=c("brown", "azure2")) +

```

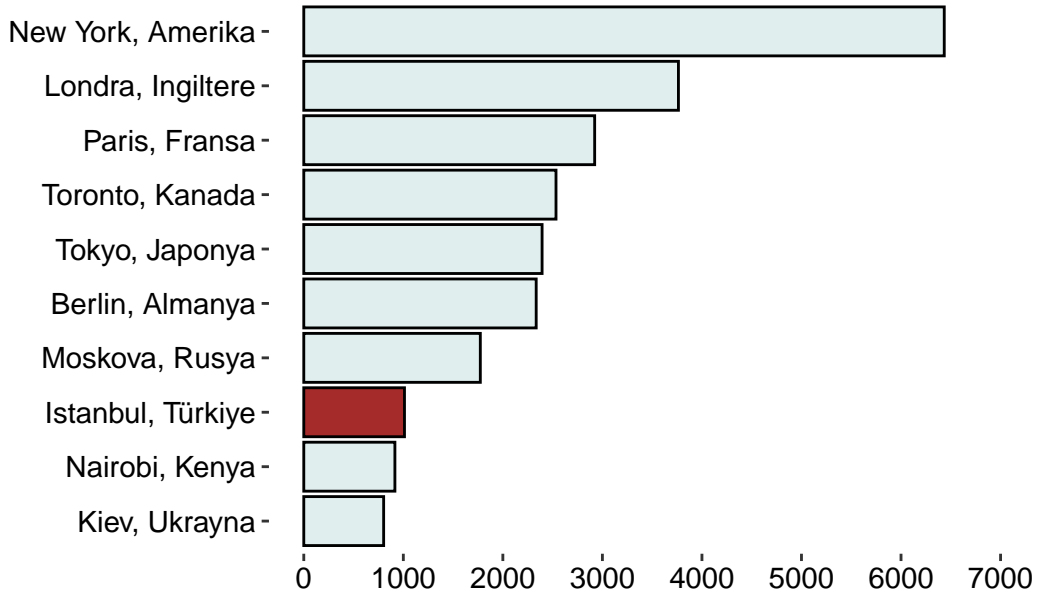
```

coord_flip()+
scale_y_continuous(breaks = seq(0,7000,1000), limits=c(0,7000))+
scale_x_discrete(
breaks = c ("New York, NY, United States" ,"London, United Kingdom" ,
            "Paris, France","Toronto, Canada" , "Tokyo, Japan",
            "Berlin, Germany" , "Moscow, Russia", "Istanbul, Turkey" ,
            "Kiev (Kyiv), Ukraine" , "Nairobi, Kenya" ) ,
labels= c("New York, Amerika" , "Londra, İngiltere" , "Paris, Fransa",
            "Toronto, Kanada" , "Tokyo, Japonya", "Berlin, Almanya",
            "Moskova, Rusya", "İstanbul, Türkiye", "Kiev, Ukrayna",
            "Nairobi, Kenya" ))+
theme(legend.background = element_rect(fill = "transparent"),
      legend.box.background = element_rect(fill = "transparent"),
      panel.background = element_rect(fill = "transparent"),
      panel.grid.major = element_blank(),
      panel.grid.minor = element_blank(),
      plot.background = element_rect(fill = "transparent", color = NA),
      legend.position = "none",
      axis.title = element_blank(),
      axis.text = element_text(colour = "black", size = 11))+
labs(title = "Şehir içinde 3+1 Dairelerin Ortalama Kira Fiyatları (Dolar)")

ggsave(graph4, filename = "graph4.png",
      bg = "transparent",
      width = 6.5, height = 3, dpi = 3000)
graph4

```

Sehir içinde 3+1 Dairelerin Ortalama Kira Fiyatlari (



```
graph5 <- ggplot(data2, aes(reorder(x = data2$City,
                                   +data2$`Apartment (3 bedrooms) in City Centre`/data2$`Average
y = data2$`Apartment (3 bedrooms) in City Centre`/data2$`Average Month
fill=factor(if_else(
    data2$City=="Istanbul, Turkey","Highlighted","Normal"))))+
geom_bar(stat = "identity", color = "black")+
scale_fill_manual(name = "City", values=c("brown","azure2"))+
coord_flip()+
scale_y_continuous(breaks = seq(0,3,0.5), limits=c(0,3))+
scale_x_discrete(
breaks = c ("New York, NY, United States" ,"London, United Kingdom" ,
            "Paris, France","Toronto, Canada" ,"Tokyo, Japan",
            "Berlin, Germany" ,"Moscow, Russia", "Istanbul, Turkey" ,
            "Kiev (Kyiv), Ukraine" ,"Nairobi, Kenya") ,
labels= c("New York, Amerika" ,"Londra, İngiltere" ,"Paris, Fransa",
            "Toronto, Kanada" ,"Tokyo, Japonya", "Berlin, Almanya",
            "Moskova, Rusya", "İstanbul, Türkiye", "Kiev, Ukrayna",
            "Nairobi, Kenya" ))+
theme(plot.title = element_text(hjust = 1),
      legend.background = element_rect(fill = "transparent"),
      legend.box.background = element_rect(fill = "transparent"),
```



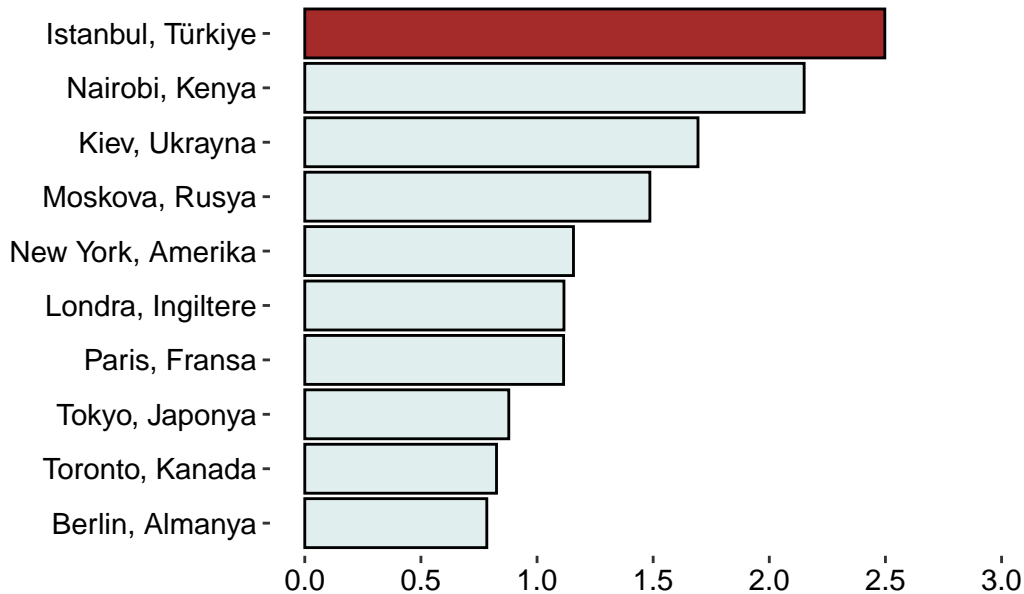
```

panel.background = element_rect(fill = "transparent"),
panel.grid.major = element_blank(),
panel.grid.minor = element_blank(),
plot.background = element_rect(fill = "transparent", color = NA),
legend.position = "none",
axis.title = element_blank(),
axis.text = element_text(colour = "black", size = 11))+
labs(title = "Şehir içinde 3+1 Dairelerin Ortalama Kira Fiyatının Ortalama Maaşa Oranı")

ggsave(graph5, filename = "graph5.png",
       bg = "transparent",
       width = 6.5, height = 3, dpi = 3000)
graph5

```

İçinde 3+1 Dairelerin Ortalama Kira Fiyatının Ortalama Maaşa Oranı



```

graph6 <- ggplot(data2, aes(reorder(
  x = data2$City,
  +data2$`Toyota Corolla Sedan 1.6l 97kW Comfort (Or Equivalent New Car
  y = data2$`Toyota Corolla Sedan 1.6l 97kW Comfort (Or Equivalent New Car
  color=factor(if_else(
    data2$City=="Istanbul, Turkey","Highlighted","Normal"))))+
geom_point(stat = "identity", aes(size=data2$`Toyota Corolla Sedan 1.6l 97kW Comfort (O

```

```

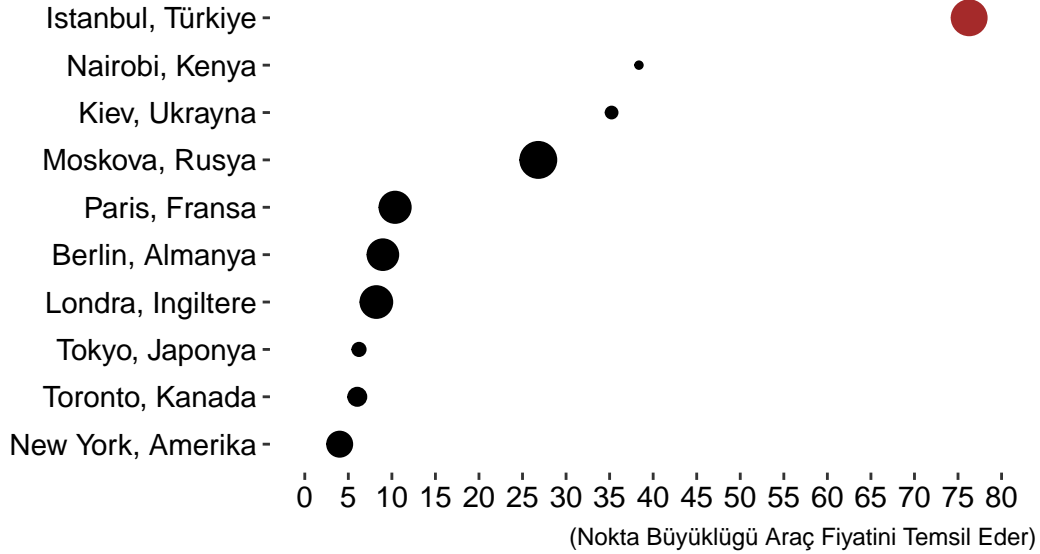
scale_color_manual(name = "City", values=c("brown","black"))+
coord_flip()+
scale_y_continuous(breaks = seq(0,80,5), limits=c(0,80))+
scale_x_discrete(
breaks = c ("New York, NY, United States" ,"London, United Kingdom" ,
            "Paris, France","Toronto, Canada" , "Tokyo, Japan",
            "Berlin, Germany" , "Moscow, Russia", "Istanbul, Turkey" ,
            "Kiev (Kyiv), Ukraine" , "Nairobi, Kenya") ,
labels= c("New York, Amerika" , "Londra, İngiltere" , "Paris, Fransa",
            "Toronto, Kanada" , "Tokyo, Japonya", "Berlin, Almanya",
            "Moskova, Rusya", "İstanbul, Türkiye", "Kiev, Ukrayna",
            "Nairobi, Kenya" ))+
theme(plot.title = element_text(hjust = 1),
      plot.subtitle = element_text(size = 8, hjust = -0.23),
      legend.background = element_rect(fill = "transparent"),
      legend.box.background = element_rect(fill = "transparent"),
      panel.background = element_rect(fill = "transparent"),
      panel.grid.major = element_blank(),
      panel.grid.minor = element_blank(),
      plot.background = element_rect(fill = "transparent", color = NA),
      legend.position = "none",
      axis.title = element_blank(),
      axis.text = element_text(colour = "black", size = 11))+
labs(title = "Ortalama Maaş İle Toyota Corolla Sedan 1.6l 97kW Comfort Alma Süresi (Ay)"
      subtitle = "(Sıfır Araç)",
      caption = "(Nokta Büyüklüğü Araç Fiyatını Temsil Eder)")

ggsave(graph6, filename = "graph6.png",
      bg = "transparent",
      width = 7, height = 3.5, dpi = 3000)
graph6

```

Maas Ile Toyota Corolla Sedan 1.6l 97kW Comfort Alma Süresi (Ay)

(Sifir Araç)



```
graph7 <- ggplot(data2, aes(reorder(
  x = data2$City,
  +data2$`Price per Square Meter to Buy Apartment in City Centre`*100/
  y = data2$`Price per Square Meter to Buy Apartment in City Centre`*100/
  color=factor(if_else(
    data2$City=="Istanbul, Turkey","Highlighted","Normal"))))+
geom_point(stat = "identity", aes(size=data2$`Price per Square Meter to Buy Apartment
scale_color_manual(name = "City", values=c("brown","black"))+
coord_flip()+
scale_y_continuous(breaks = seq(200,600,50), limits=c(200,600))+
scale_x_discrete(
breaks = c ("New York, NY, United States" ,"London, United Kingdom" ,
  "Paris, France","Toronto, Canada" , "Tokyo, Japan",
  "Berlin, Germany" , "Moscow, Russia", "Istanbul, Turkey" ,
  "Kiev (Kyiv), Ukraine" , "Nairobi, Kenya") ,
labels= c("New York, Amerika" , "Londra, İngiltere" , "Paris, Fransa",
  "Toronto, Kanada" , "Tokyo, Japonya", "Berlin, Almanya",
  "Moskova, Rusya", "İstanbul, Türkiye", "Kiev, Ukrayna",
  "Nairobi, Kenya" ))+
theme(plot.title = element_text(hjust = -0.30),
  legend.background = element_rect(fill = "transparent"),
```

```

legend.box.background = element_rect(fill = "transparent"),
panel.background = element_rect(fill = "transparent"),
panel.grid.major = element_blank(),
panel.grid.minor = element_blank(),
plot.background = element_rect(fill = "transparent", color = NA),
legend.position = "none",
axis.title = element_blank(),
axis.text = element_text(colour = "black", size = 11))+
labs(title = "Ortalama Maaş İle Şehir İçinde 100 m² Daire Alma Süresi (Ay)",
caption = "(Nokta Büyüklüğü Şehir İçinde Ortalama 100 m² Daire Fiyatını Temsil Eder)",

ggsave(graph7, filename = "graph7.png",
bg = "transparent",
width = 7, height = 3.5, dpi = 3000)
graph7

```

