

Calculating Istanbul Population Over Time

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```
# #install_tinytex(
# force = FALSE,
#   dir = "auto",
#   version = "daily",
#   repository = "ctan",
#   extra_packages = if (is_tinytex()) tl_pkgs(),
#   add_path = TRUE
# )
#You work at the UN in urban planning and are interested in tracking population growth across major metropolitan regions. You are hoping that by looking at historical population numbers that you can predict future growth and help your team make decisions about resourcing.

#library(LaTeX)

# Write your code starting here:
city_name = "Istanbul, Turkey"

pop_year_one = 691000
pop_year_two = 15029231
pop_change = pop_year_two - pop_year_one

#Growth Rate
percentage_gr = (pop_change/pop_year_one) * 100
print(percentage_gr)
```

```
## [1] 2074.997
```

```
#Annual growth rate between 2017 and 1927
annual_gr = percentage_gr / (2017 - 1927)
print(annual_gr)
```

```
## [1] 23.05553
```

```
#This chunk of code creates a function that combines all the steps listed above.
calculate_annual_growth <- function(year_one,year_two,pop_y1, pop_y2,city) {
  annual_growth <- (((pop_y2 - pop_y1) / pop_y1) * 100) / (year_two-year_one)
  message <- paste("From", year_one, "to", year_two, "the population of", city, "grew by approximately", annual_growth, "% each year.")
  print(message)
  return(annual_growth)
}
#Using function to get same result of code.
calculate_annual_growth(1927, 2017, 691000, 15029231, "Istanbul, Turkey")
```

```
## [1] "From 1927 to 2017 the population of Istanbul, Turkey grew by approximately 23.0555250040  
199 % each year."
```

```
## [1] 23.05553
```