# Illustrating R Markdown Capabilities - SDS 6103 -LK

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## Contents



## Illustration of R Markdown Features

We illusrate R Markdown Capabilities in the below texts.

### Illustrating Inline elements

Hello! I am a passionate **software developer** with a background in *computer science* and *mathematics*. I graduated with **first-class honors** in Actuarial Science from the *University of Nairobi*. Currently, I am working as a **tax advisor** at *Ernst & Young Kenya*, where I apply my knowledge in data analysis and machine learning to help solve complex challenges.

I have a strong interest in the intersection of **technology** and **art**, and I enjoy exploring innovative ways to use **data science** and **AI** in solving real-world problems. I am also passionate about keeping up to date with the latest **technology trends**.

### Illustrating Block-level elements

In my free time, I enjoy: - Reading and writing - Catching up on the latest medical dramas. - Crocheting

My favourite quote that guides my daily life is:

> "Never be so kind. You forget to be clever. Never be so clever. You forget to be kind ·"
> — Taylor Swift

## Illustrating Mathematical Expressions

Once in a while we have to write some mathematical expressions

1.The formular can be left inside the textto look as follows $x + y = 30$ 2. If we want the formular to be on the next line we can:

$$x + y - 30$$

3. We can also use latex notation to present mathematical formulation.

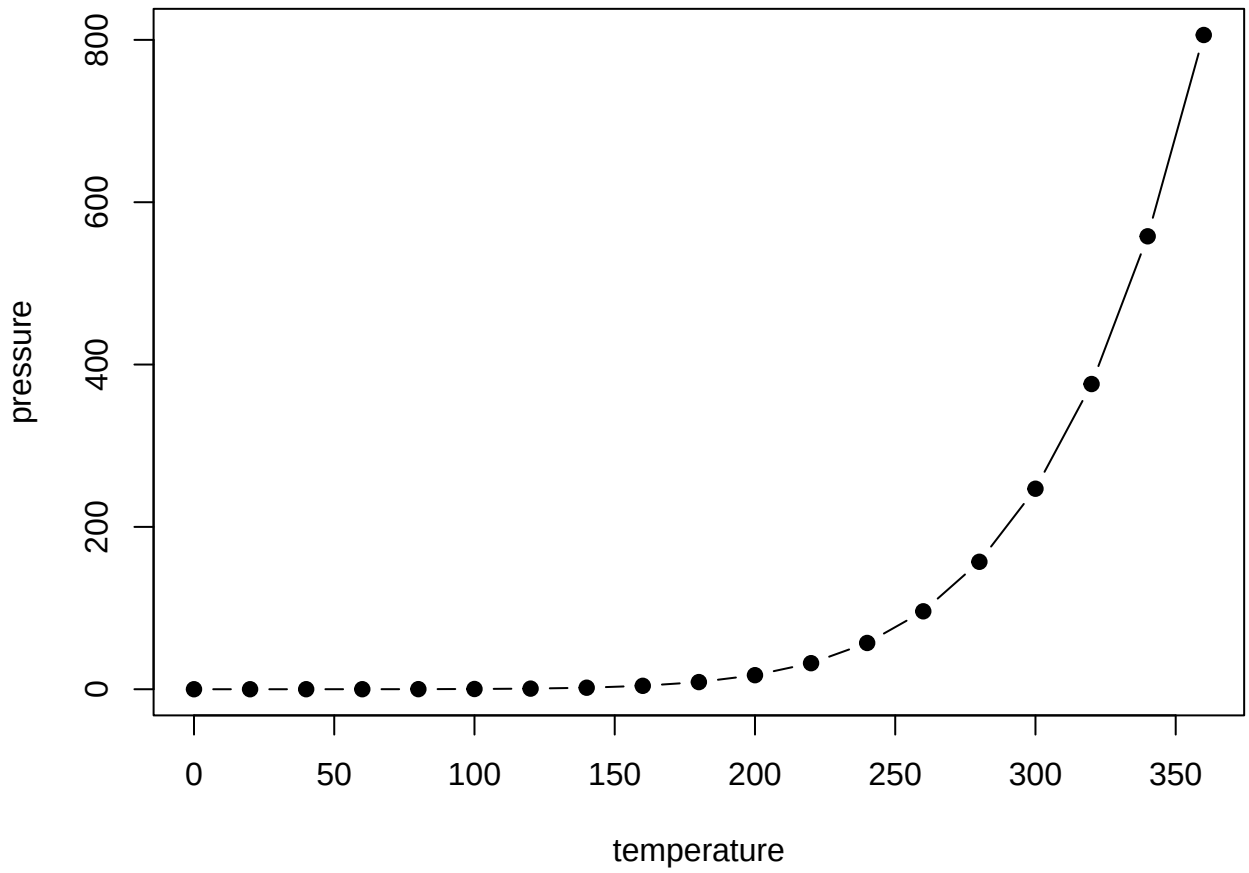
$$\int_{-\infty}^{\infty} \frac{e^x}{3x} + 4x^2 \, dx$$

# Including figures from the computer With the emergence of ChatGPT, i sometimes use it to generate images for creative inspiration. See below a sunset image i generated using ChatGPT.

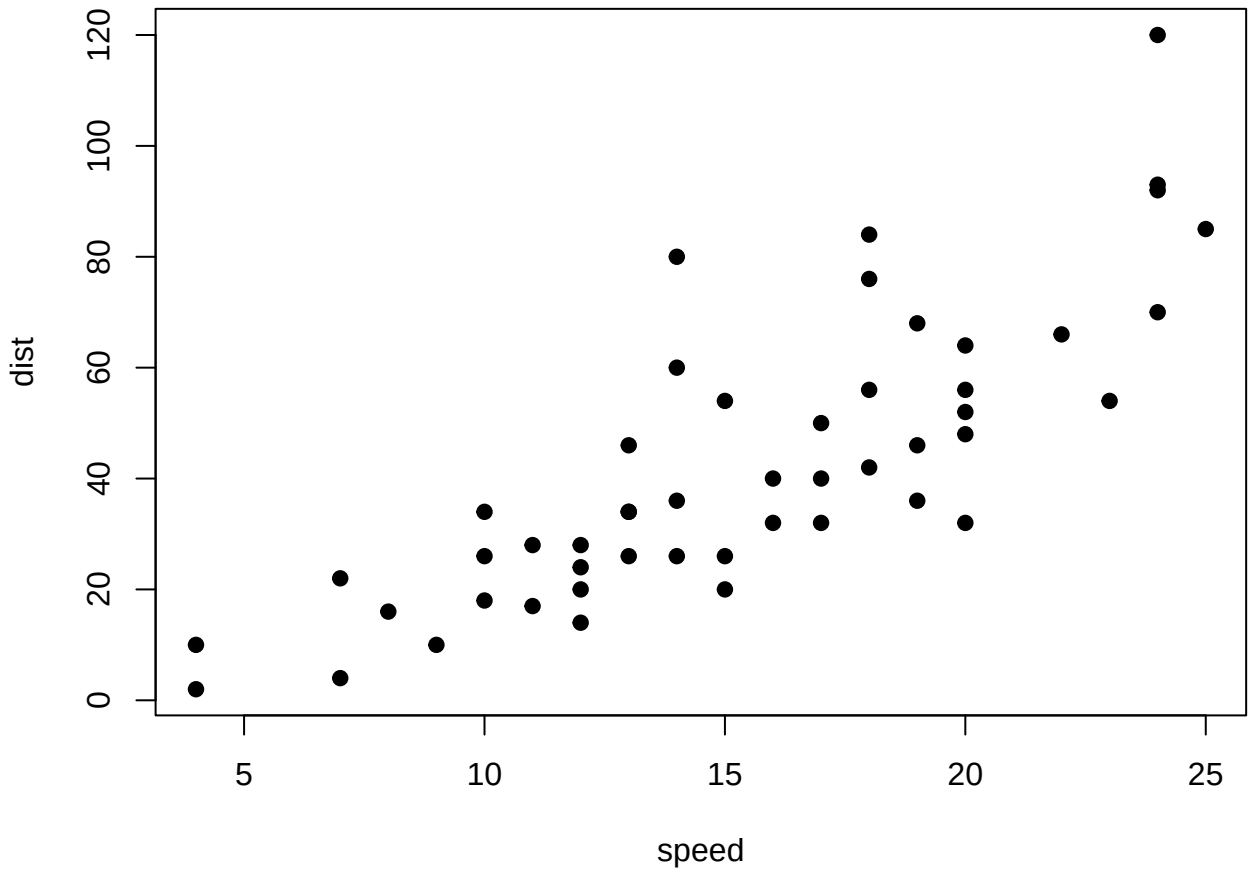
```
knitr::include_graphics("Sunset.jpg")
```

We can also include graphs in or markdown

```
par(mar = c(4, 4, 0.1, 0.1))
plot(pressure, pch = 19, type = "b")
```




```
plot(cars, pch = 19)
```




## R Notebook

R Notebook is interactive and more suited for exploratory analysis and immediate feedback. Both R Markdownare based on R Markdown, but R Notebook enhances the experience by allowing live code execution and interactive exploration.

In this notebook, we explore the marathon data from a CSV file. We will visualize the distribution of finish times and compare finish times for different runner types.

First, we load the data and necessary libraries.

```
# Load necessary libraries
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
# Load the data
marathon_data <- read.csv("Marathon.csv")
```

We then view the first 5 rows just to get a glimpse of what we are working with.

```r
# View the first few rows of the data
head(marathon_data)
```

```
##   Id         Type Finish_Time
## 1  1 Professional         2.2
## 2  2  First-Timer         7.5
## 3  3    Frequents         4.3
## 4  4 Professional         2.3
## 5  5    Frequents         5.1
## 6  6  First-Timer         8.3
```