

Activity_Task

```
# Activity 2
```

```
##activity 2
```

```
# Mean of life expectancy
```

```
# Calculate Mean of life expectancy
```

```
mean_lifeExp <- mean(gapminder$lifeExp)
```

```
mean_lifeExp
```

```
## [1] 59.47444
```

```
# Calculate Median of life expectancy
```

```
median_lifeExp <- median(gapminder$lifeExp)
```

```
median_lifeExp
```

```
## [1] 60.7125
```

```
# Define a function to calculate Mode
```

```
getmode <- function(v) {
```

```
  uniqv <- unique(v)
```

```
  uniqv[which.max(tabulate(match(v, uniqv)))]
```

```
}
```

```
# Calculate Mode of continent
```

```
mode_continent <- getmode(gapminder$continent)
```

```
mode_continent
```

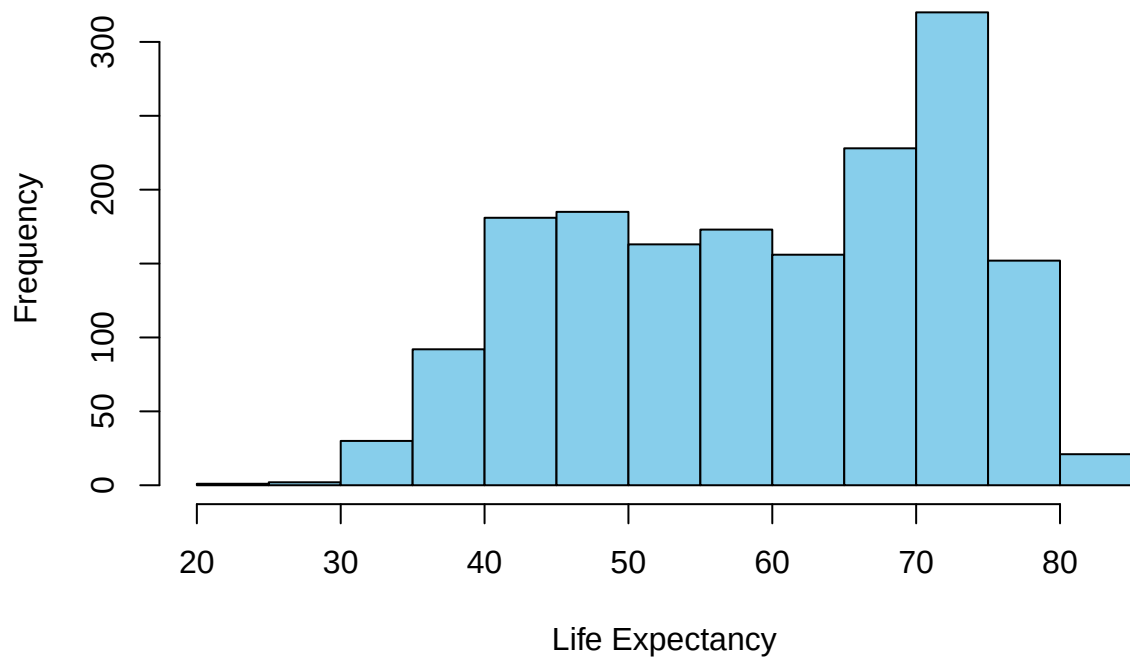
```
## [1] Africa
```

```
## Levels: Africa Americas Asia Europe Oceania
```

```
# Histogram of life expectancy
```

```
hist(gapminder$lifeExp, col = "skyblue", main = "Life Expectancy Histogram", xlab = "Life Expectancy", l
```

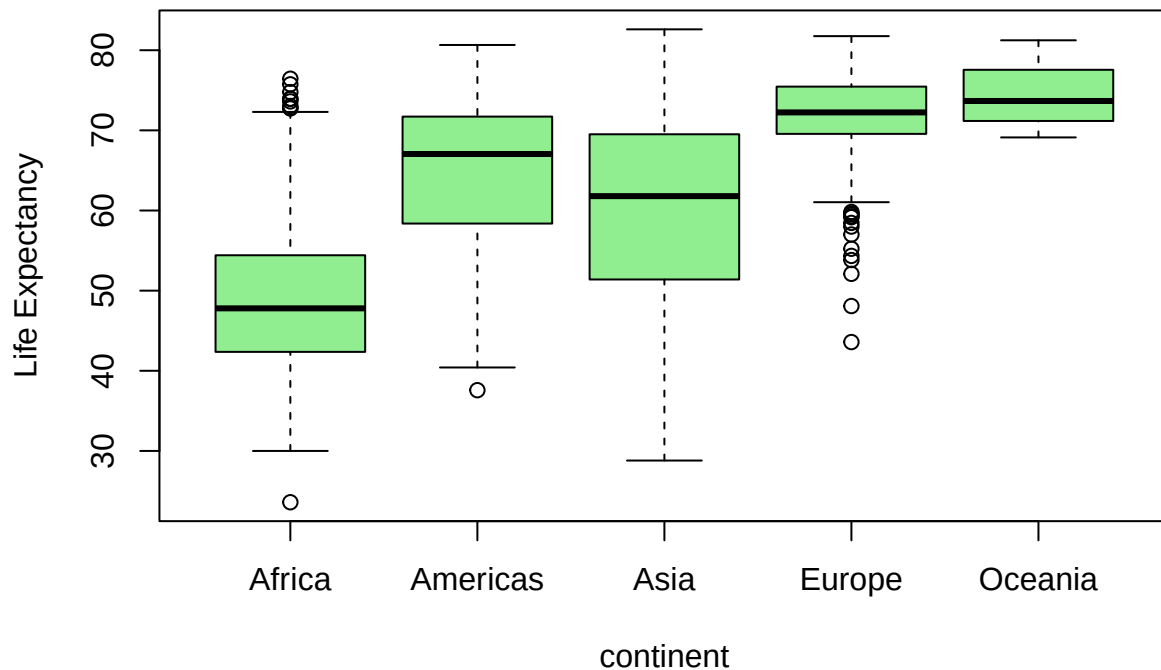
Life Expectancy Histogram



```
# Boxplot by continent
```

```
boxplot(lifeExp ~ continent, data = gapminder, col = "lightgreen", main = "Life Expectancy by Continent")
```

Life Expectancy by Continent



#activity 3

Variance of life expectancy

```
variance_lifeExp <- var(gapminder$lifeExp)
variance_lifeExp
```

```
## [1] 166.8517
```

Standard deviation of life expectancy

```
sd_lifeExp <- sd(gapminder$lifeExp)
sd_lifeExp
```

```
## [1] 12.91711
```

Range of life expectancy

```
range_lifeExp <- range(gapminder$lifeExp)
range_lifeExp
```

```
## [1] 23.599 82.603
```

Summary statistics of life expectancy

```
summary_lifeExp <- summary(gapminder$lifeExp)
summary_lifeExp
```

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      23.60  48.20   60.71   59.47  70.85   82.60
```

Interquartile range (IQR) of life expectancy

```
iqr_lifeExp <- IQR(gapminder$lifeExp)
iqr_lifeExp
```

```
## [1] 22.6475
```

```
selected <- gapminder[gapminder$country %in% c("India", "China", "United States", "Nigeria"), ]
```

```
# Line plot
```

```
ggplot(selected, aes(x = year, y = lifeExp, color = country)) +  
  geom_line(size = 1) +  
  labs(title = "Life Expectancy Over Time", y = "Life Expectancy", x = "Year")
```

```
## Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
```

```
## i Please use `linewidth` instead.
```

```
## This warning is displayed once every 8 hours.
```

```
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
```

```
## generated.
```

