NRSG 741: HW_01

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GitHub Repository @ https://github.com/tommyflynn/N741_Homework.git

Task One:

The mean life expectancy is 59.47 years, with a standard deviation of 12.92, median of 60.71, and sample size of 1704.

Task Two:

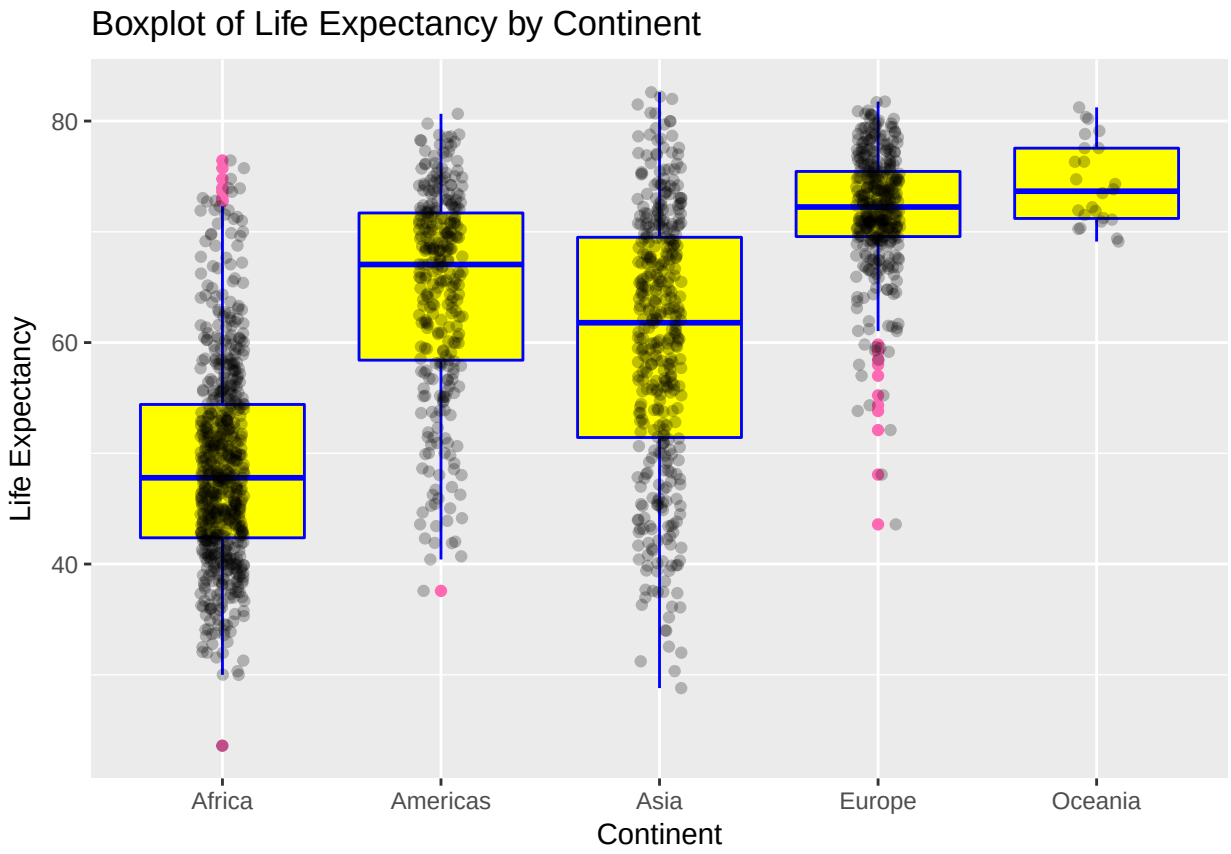
```
kable(gapminder %>%
  group_by(Continent = continent) %>%
  summarise(LE_median = median(lifeExp), LE_sd = sd(lifeExp),
            LE_mean = mean(lifeExp)), caption = "Life Expectancy by Continent: Summary Statistics"
)
```

Table 1: Life Expectancy by Continent: Summary Statistics

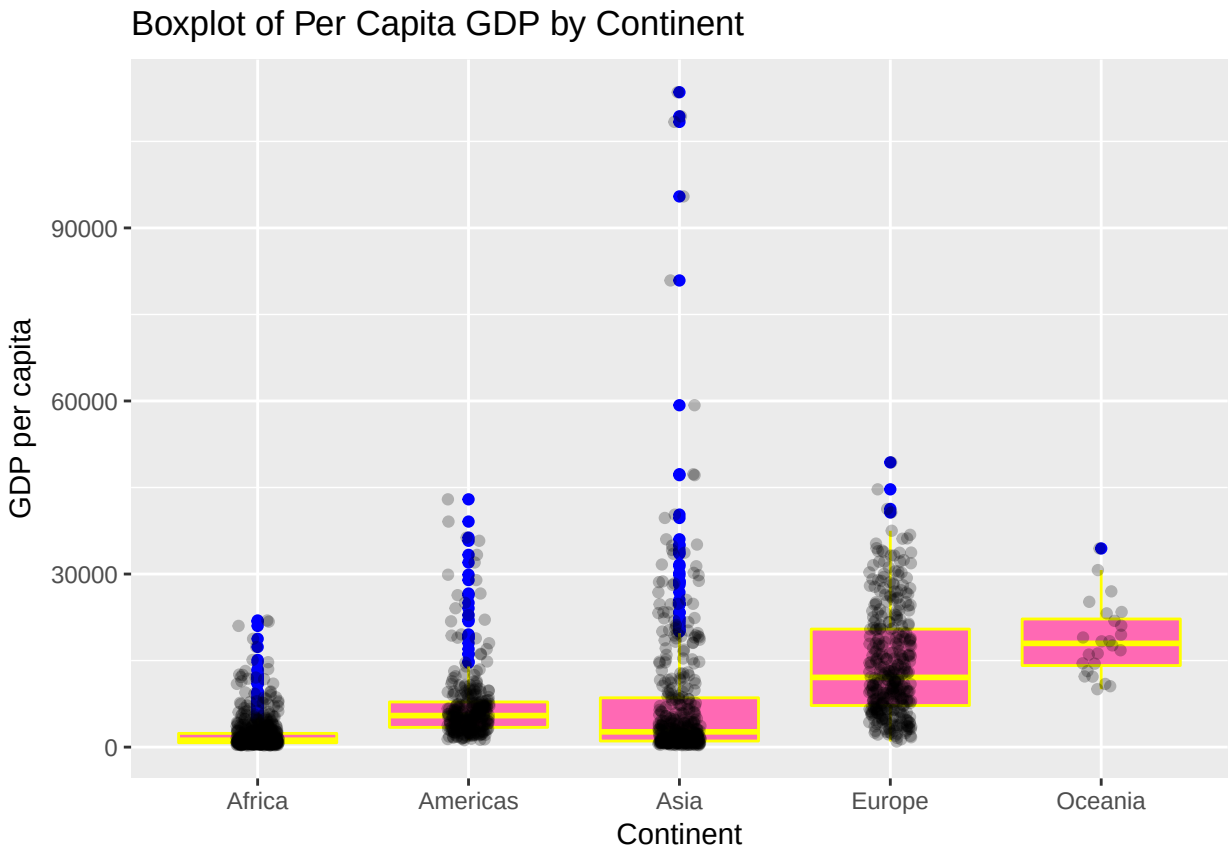
Continent	LE_median	LE_sd	LE_mean
Africa	47.7920	9.150210	48.86533
Americas	67.0480	9.345088	64.65874
Asia	61.7915	11.864532	60.06490
Europe	72.2410	5.433178	71.90369
Oceania	73.6650	3.795611	74.32621

Task Three:

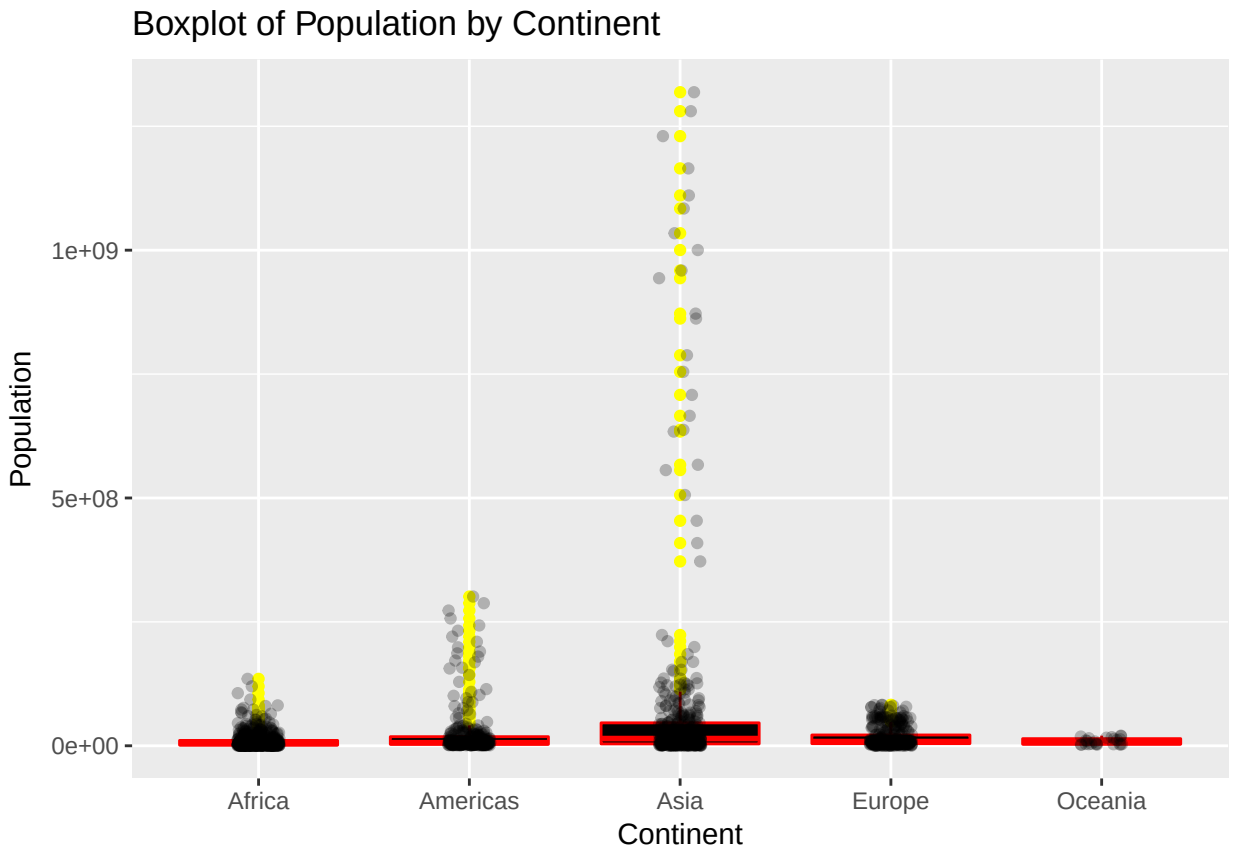
```
contXlife <- ggplot(gapminder, aes(x = continent, y = lifeExp))
contXlife + geom_boxplot(fill = "yellow", colour = "blue", outlier.colour = "hotpink") +
  geom_jitter(position = position_jitter(width = 0.1, height = 0), alpha = 1/4) +
  labs(x="Continent", y="Life Expectancy", title="Boxplot of Life Expectancy by Continent")
```




```
contXgdp <- ggplot(gapminder, aes(x = continent, y = gdpPercap))
contXgdp + geom_boxplot(fill = "hotpink", colour = "yellow", outlier.colour = "blue") +
  geom_jitter(position = position_jitter(width = 0.1, height = 0), alpha = 1/4) +
  labs(x="Continent", y="GDP per capita", title="Boxplot of Per Capita GDP by Continent")
```



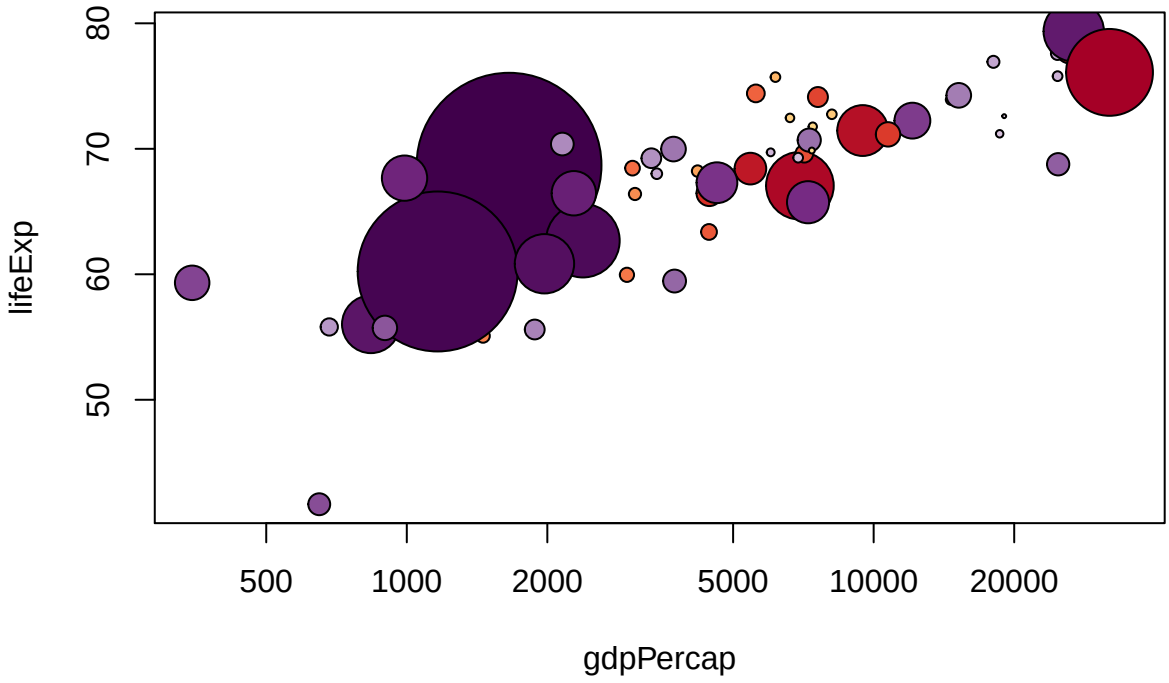

```
contXpop <- ggplot(gapminder, aes(x = continent, y = pop))
contXpop + geom_boxplot(fill = "black", colour = "red", outlier.colour = "yellow") +
  geom_jitter(position = position_jitter(width = 0.1, height = 0), alpha = 1/4) +
  labs(x="Continent", y="Population", title="Boxplot of Population by Continent")
```



Task Four:

Scatterplot of countries in Asia and the Americas according to per capita GDP and life expectancy (country nodes scaled to population)

```
colorful_gap <-
  data.frame(gapminder,
             cc = I(country_colors[match(gapminder$country,
                                         names(country_colors))]))
Continent <- with(colorful_gap, continent %in% c("Americas", "Asia") & year == 1992)
plot(lifeExp ~ gdpPercap, colorful_gap, subset = Continent, log = "x", pch = 21,
     cex = sqrt(colorful_gap$pop[Continent]/pi)/1500, bg = colorful_gap$cc[Continent])
```



References

1. Jennifer Bryan (2017). gapminder: Data from Gapminder. R package version 0.3.0. https://CRAN.R-project.org/package=gapminder