Gapminder visualization

Your name

Prerequisite

```
# load the gapminder data
gapminder <- read_csv("data/gapminder.csv")
```

Review of factors

- Create a new variable named **poor**, defined as any observation with a `gdpPercap` value below or equal to the 10th percentile (1st decile) of the distribution, assigning the value 1 if it is equal to or below the 10th percentile, and 0 otherwise.
- After creating this variable, generate a new one named **poor_f** as a factor version. Set the correct levels and label them as *poor* for 1 and **not poor** for 0.

```
## create variable poor using ifelse() and quantile()


gapminder$poor <- ifelse(gapminder$gdpPercap <= quantile(gapminder$gdpPercap,probs = 0.1),
                         1,0)

## create the factor variable "poor_f"

gapminder$poor_f <- factor(gapminder$poor,
                           levels = c(0,1),
                           labels = c("not poor","poor"))
```

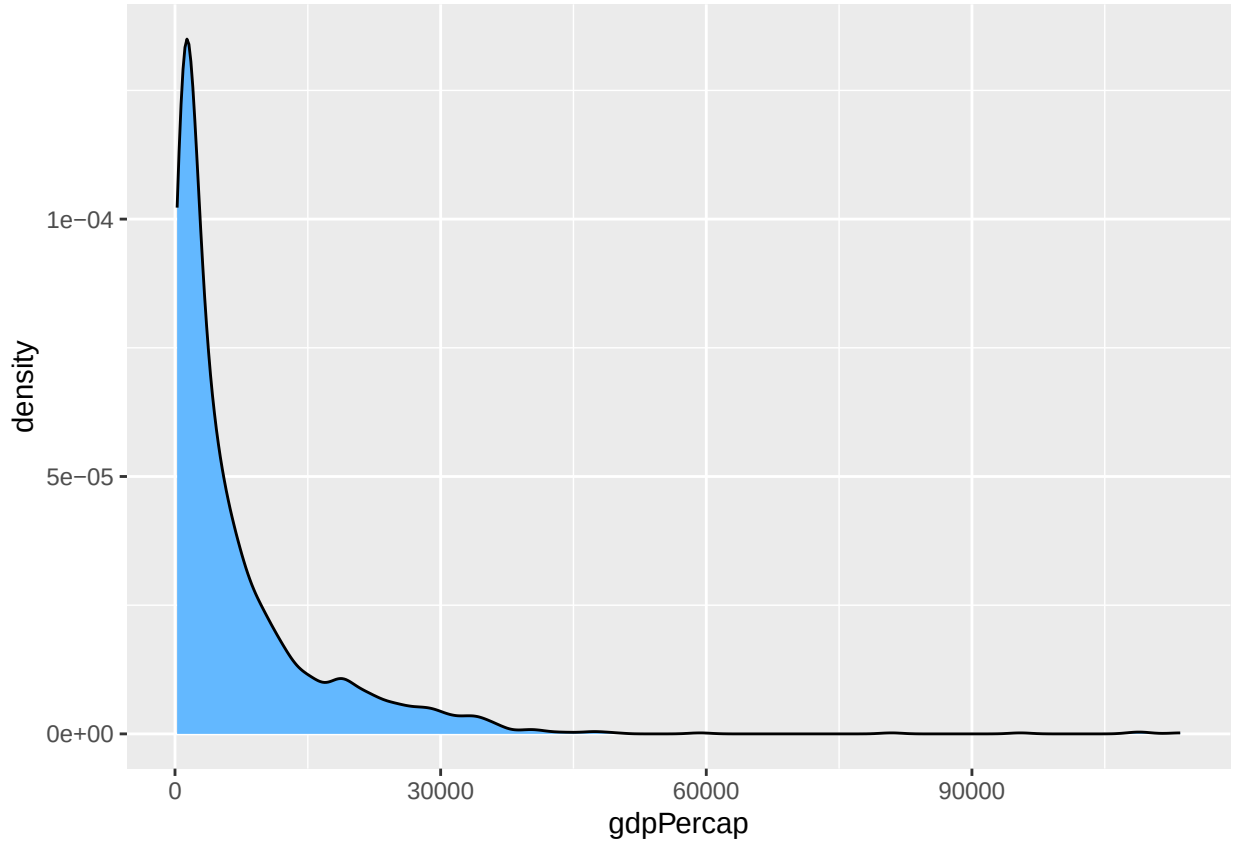
Density plot by group

Please create the following plots

1. Distribution of `gdpPercap` using either a histogram or density plot. Inside the `geom_` function, define the `fill=` aesthetics with a color of your choice.
2. Group `gdpPercap` distribution per continent defining `group=` and `fill=` in the general aesthetics `aes()`
3. Repeat the previous plot but now take the logarithm `log()` of `gdpPercap`. Ypu can define this transformation directly within the general `aes()`.
4. Repeat the previous plot (3.) but now split each continent in multiple facets using `facet_wrap()`.

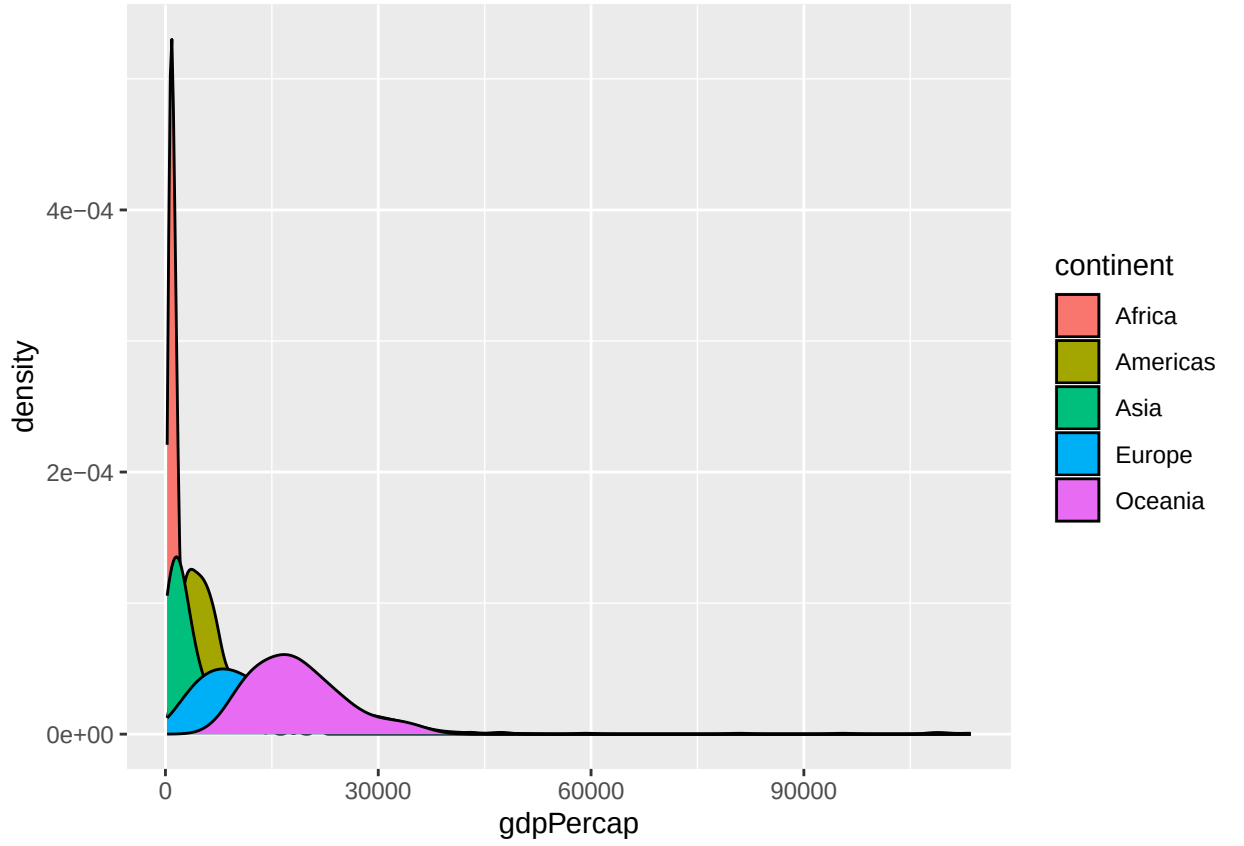
```r
# 1.

ggplot(gapminder, aes(x = gdpPercap)) +
  geom_density(fill="steelblue1")
```



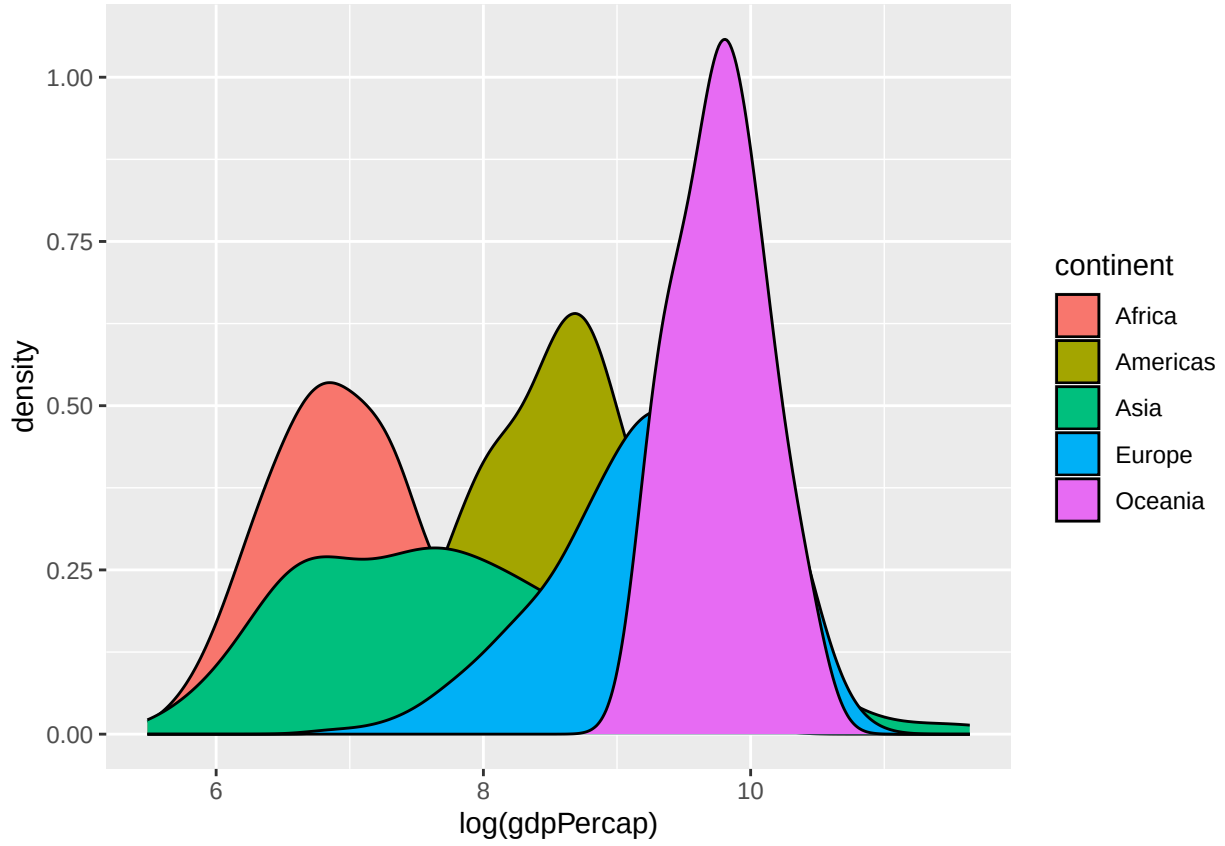

```r
# 2.

ggplot(gapminder, aes(x = gdpPercap,
                      group=continent,
                      fill=continent)) +
  geom_density()
```



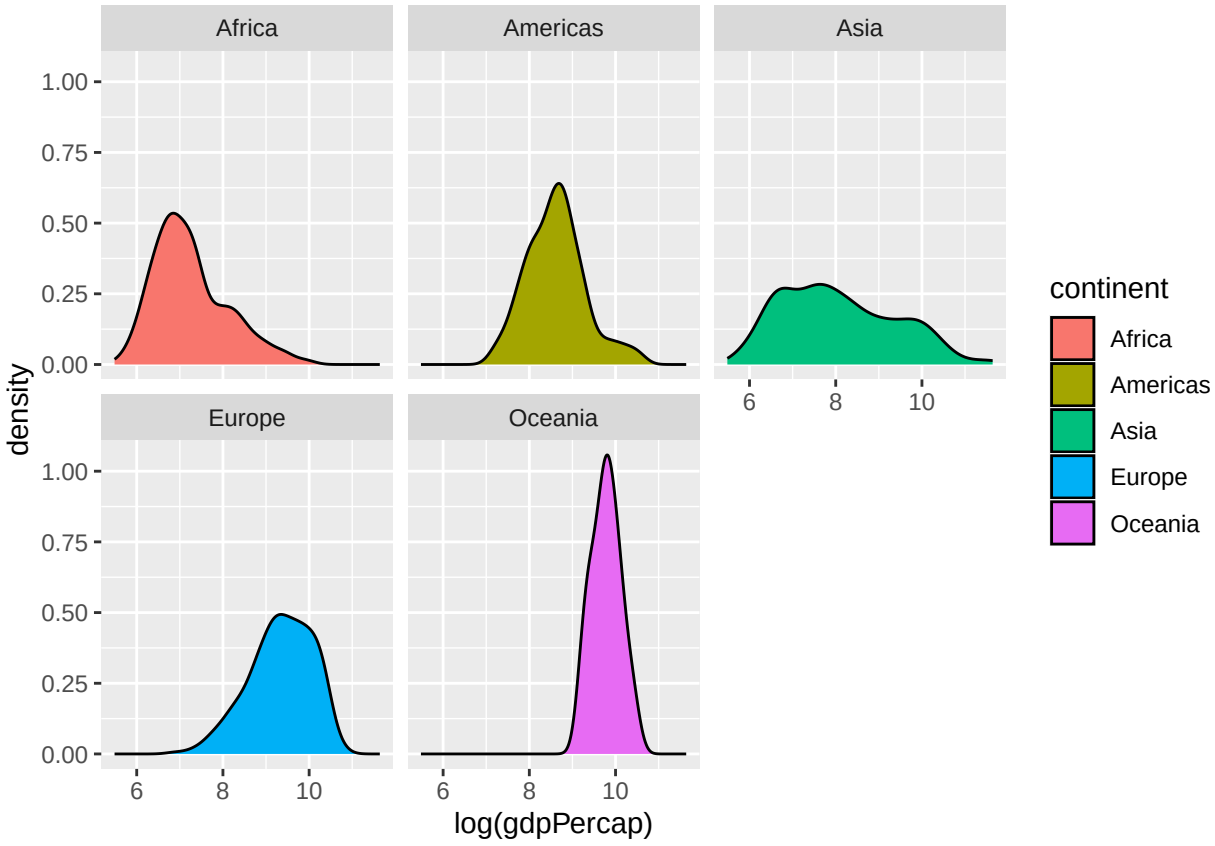

```
# 3.

ggplot(gapminder, aes(x = log(gdpPercap),
                      group=continent,
                      fill=continent)) +
  geom_density()
```




```
# 4.

ggplot(gapminder, aes(x = log(gdpPercap),
                      group=continent,
                      fill=continent)) +
  geom_density() +
  facet_wrap(~ continent)
```



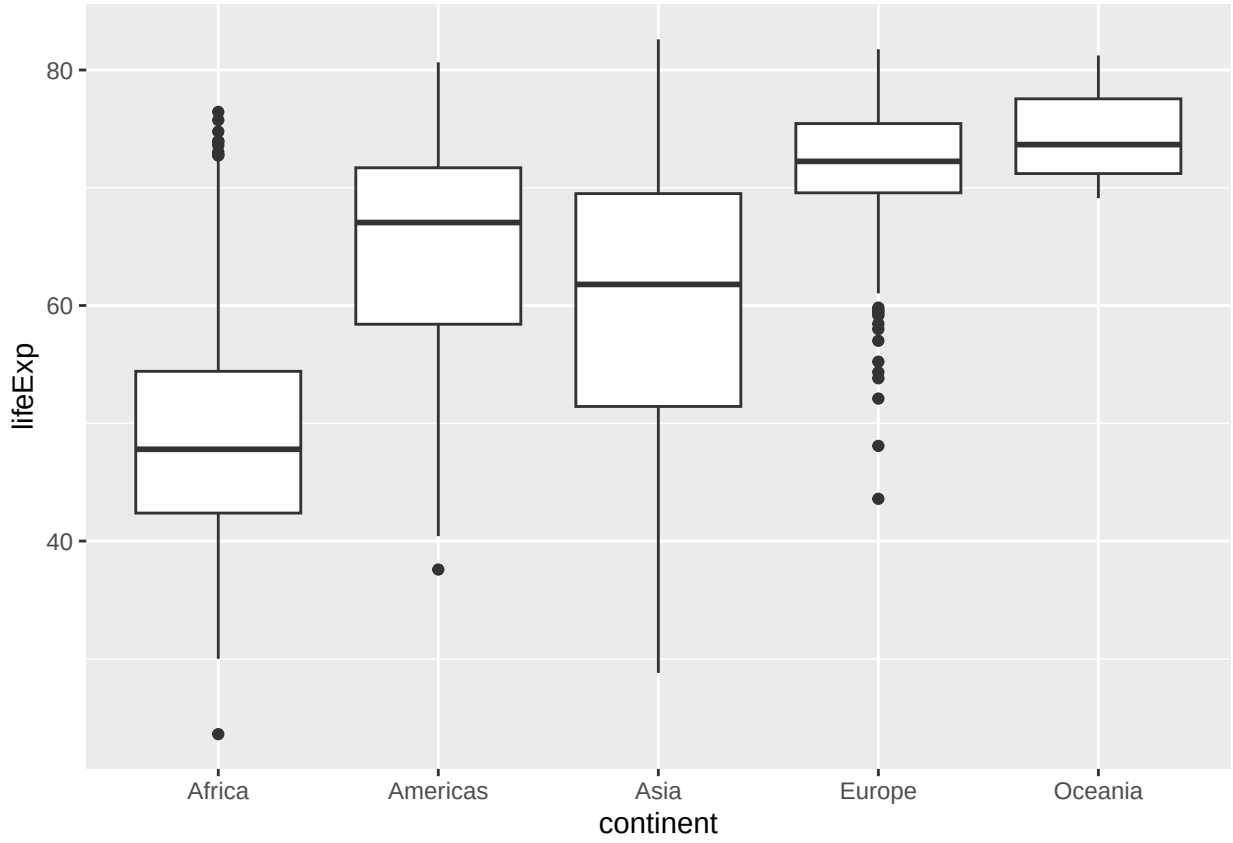
Boxplot by group using `fill`

Please plot the following box plots

1. Distribution of `lifeExp` for each continent
2. Distribution of `lifeExp` for each continent by poor status. Note that you do not need to define the `group` in the aesthetics because the levels are already defined in the `x` aesthetic.

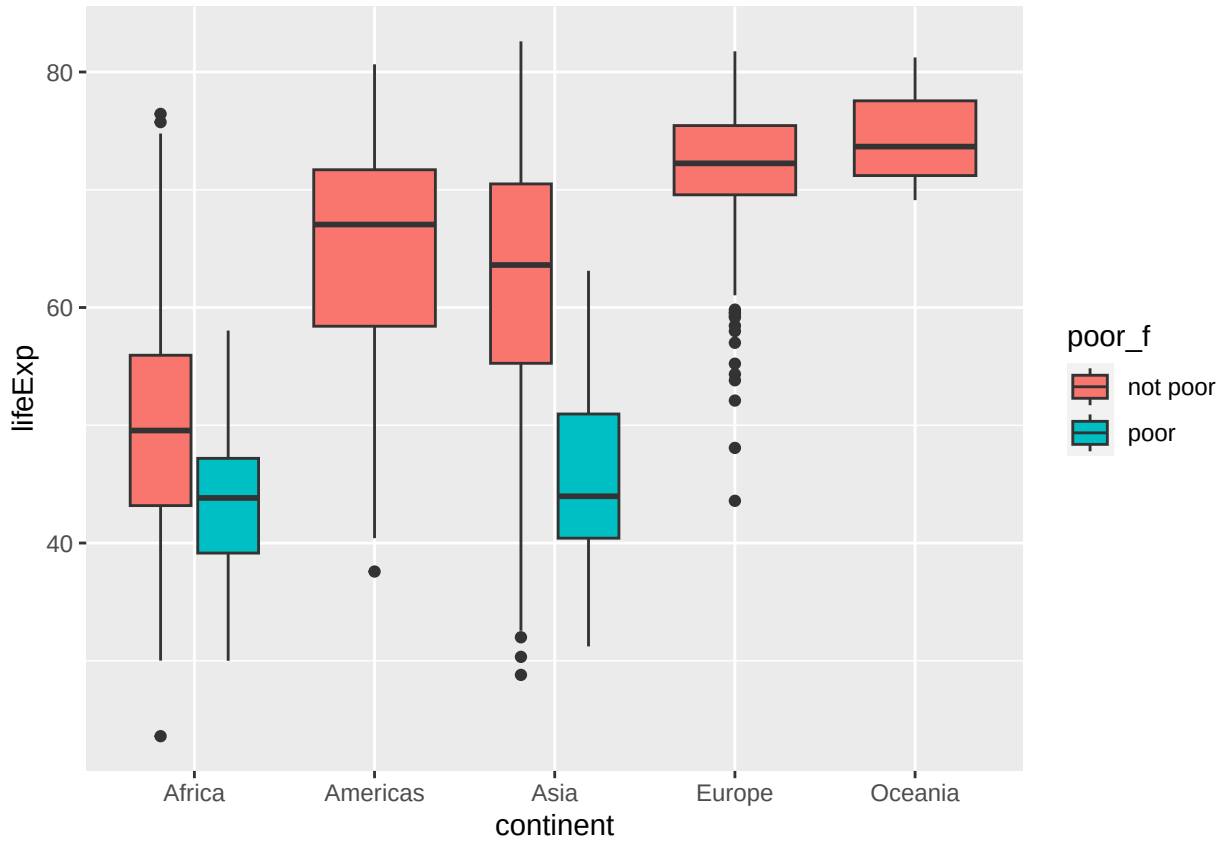
```
# 1.

ggplot(gapminder, aes(y = lifeExp,
                      x = continent)) +
  geom_boxplot()
```




```
# 2.

ggplot(gapminder, aes(y = lifeExp,
                      x = continent,
                      fill=poor_f)) +
  geom_boxplot()
```



Create a visual of your choice

Generate a novel plot with the gapminder dataset, avoiding duplication of any previously created plots. Feel free to employ different aesthetics or geometries, such as `geom_line` or `geom_point`, ensuring the plot is informative. If applicable, incorporate colors for enhanced visualization.