GEOPROCESSAMENTO - BICT Mar

Aula 1: Introdução e cronograma do curso

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Pacotes utilizados

```
library(sf)
library(spData)
library(tidyverse)
```

Carregando os dados `world`.

```
data(world)
```

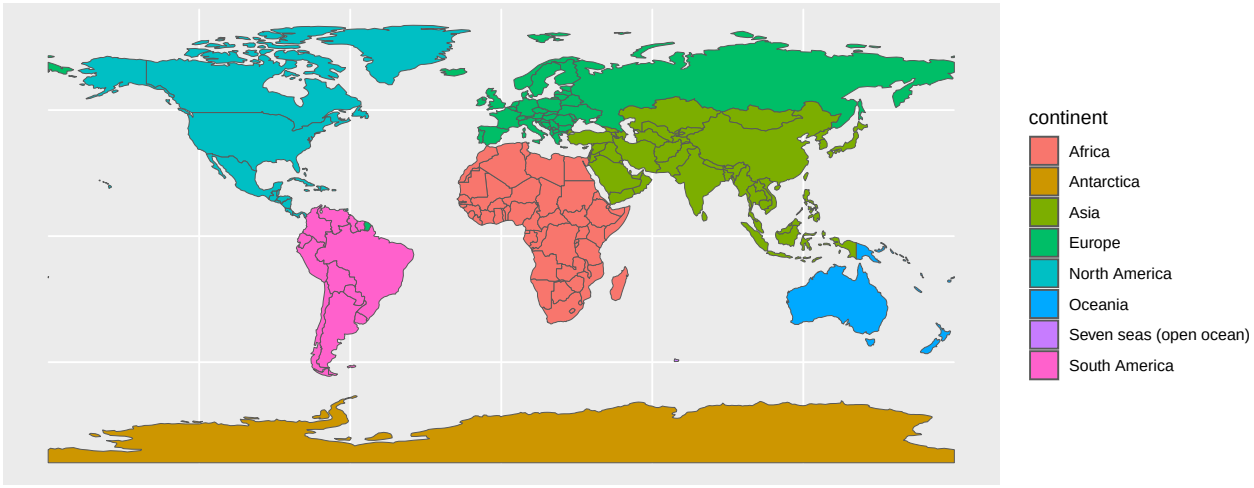
Verificando a tabela de atributos das 10 primeiras linhas.

```
world %>%
  head(n = 10)
```

```
## Simple feature collection with 10 features and 10 fields
## Geometry type: MULTIPOLYGON
## Dimension:     XY
## Bounding box:  xmin: -180 ymin: -55.25 xmax: 180 ymax: 83.23324
## Geodetic CRS:  WGS 84
## # A tibble: 10 x 11
##    iso_a2 name_long continent region_un subregion type  area_km2     pop lifeExp
##    <chr>  <chr>     <chr>     <chr>     <chr>     <chr>    <dbl>   <dbl>   <dbl>
##  1 FJ     Fiji      Oceania   Oceania   Melanesia Sove~   1.93e4  8.86e5    70.0
##  2 TZ     Tanzania  Africa    Africa    Eastern ~ Sove~   9.33e5  5.22e7    64.2
##  3 EH     Western ~ Africa    Africa    Northern~ Inde~   9.63e4 NA         NA
##  4 CA     Canada    North Am~ Americas  Northern~ Sove~   1.00e7  3.55e7    82.0
##  5 US     United S~ North Am~ Americas  Northern~ Coun~   9.51e6  3.19e8    78.8
##  6 KZ     Kazakhst~ Asia      Asia      Central ~ Sove~   2.73e6  1.73e7    71.6
##  7 UZ     Uzbekist~ Asia      Asia      Central ~ Sove~   4.61e5  3.08e7    71.0
##  8 PG     Papua Ne~ Oceania   Oceania   Melanesia Sove~   4.65e5  7.76e6    65.2
##  9 ID     Indonesia Asia      Asia      South-Ea~ Sove~   1.82e6  2.55e8    68.9
## 10 AR     Argentina South Am~ Americas  South Am~ Sove~   2.78e6  4.30e7    76.3
## # i 2 more variables: gdpPercap <dbl>, geom <MULTIPOLYGON [°]>
```

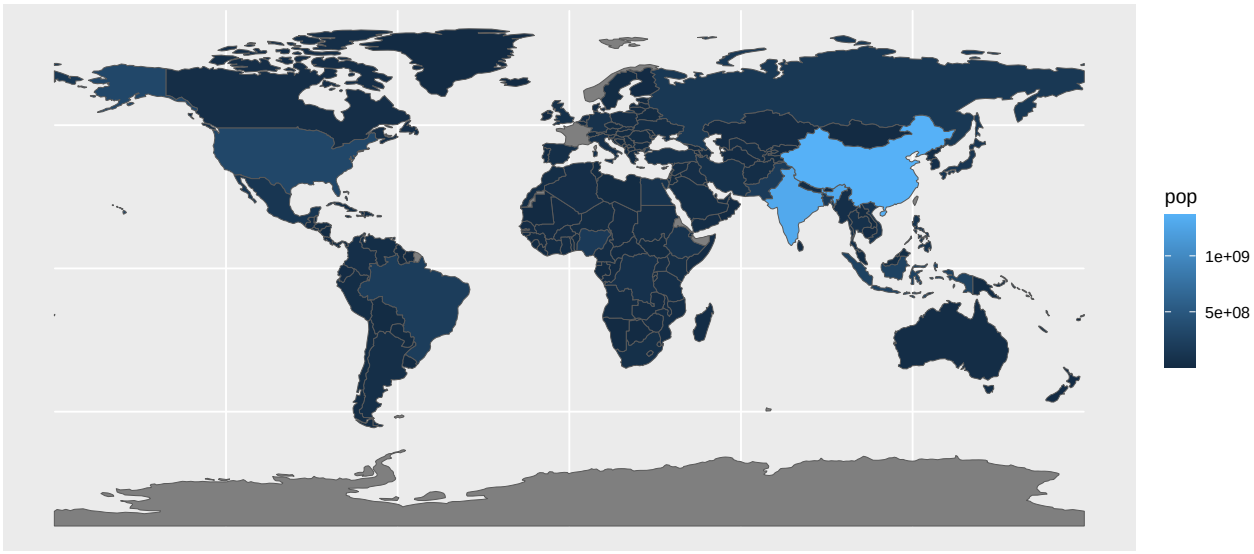
Plotando o mapa de continentes.

```
ggplot(world) +
  geom_sf(aes(fill = continent))
```



Plotando o mapa de tamanhos populacionais.

```
ggplot(world) +
  geom_sf(aes(fill = pop))
```



Plotando o mapa da América do Sul.

```r
asul <- world %>%
  filter(continent == 'South America')

asul
```

```
## Simple feature collection with 13 features and 10 fields
## Geometry type: MULTIPOLYGON
## Dimension:     XY
## Bounding box:  xmin: -81.41094 ymin: -55.61183 xmax: -34.72999 ymax: 12.4373
## Geodetic CRS:  WGS 84
## # A tibble: 13 x 11
##    iso_a2 name_long continent region_un subregion type  area_km2     pop lifeExp
##  * <chr>  <chr>     <chr>     <chr>     <chr>     <chr>    <dbl>   <dbl>   <dbl>
##  1 AR     Argentina South Am~ Americas  South Am~ Sove~ 2784469.  4.30e7    76.3
##  2 CL     Chile     South Am~ Americas  South Am~ Sove~  814844.  1.76e7    79.1
##  3 FK     Falkland~ South Am~ Americas  South Am~ Depe~   16364. NA         NA
##  4 UY     Uruguay   South Am~ Americas  South Am~ Sove~  176854.  3.42e6    77.2
##  5 BR     Brazil    South Am~ Americas  South Am~ Sove~ 8508557.  2.04e8    75.0
##  6 BO     Bolivia   South Am~ Americas  South Am~ Sove~ 1085270.  1.06e7    68.4
##  7 PE     Peru      South Am~ Americas  South Am~ Sove~ 1309700.  3.10e7    74.5
##  8 CO     Colombia  South Am~ Americas  South Am~ Sove~ 1151883.  4.78e7    74.0
##  9 VE     Venezuela South Am~ Americas  South Am~ Sove~  908499.  3.07e7    74.2
## 10 GY     Guyana    South Am~ Americas  South Am~ Sove~  209802.  7.63e5    66.4
## 11 SR     Suriname  South Am~ Americas  South Am~ Sove~  144269.  5.48e5    71.1
## 12 EC     Ecuador   South Am~ Americas  South Am~ Sove~  250747.  1.59e7    75.9
## 13 PY     Paraguay  South Am~ Americas  South Am~ Sove~  401336.  6.55e6    72.9
## # i 2 more variables: gdpPercap <dbl>, geom <MULTIPOLYGON [°]>
```

```r
ggplot(asul) +
  geom_sf(aes(fill = name_long)) +
  labs(fill = 'País') +
  theme_void()
```


País
Argentina
Bolivia
Brazil
Chile
Colombia
Ecuador
Falkland Islands
Guyana
Paraguay
Peru
Suriname
Uruguay
Venezuela