Coordenadas Polares

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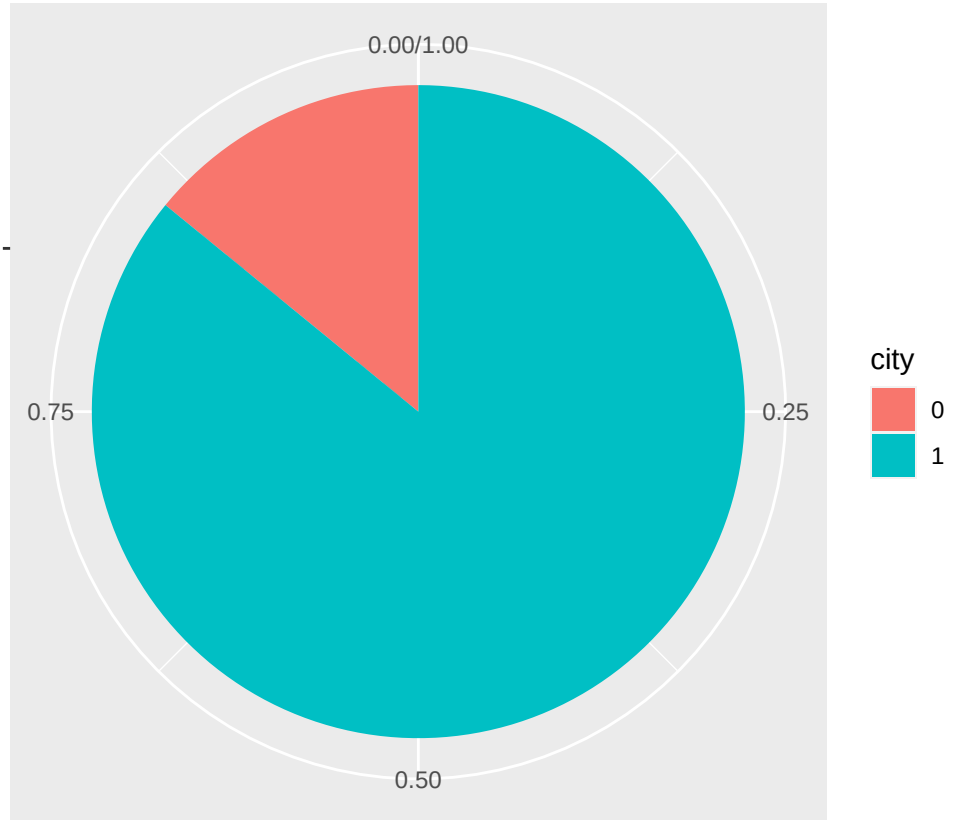
```
Tabela <- read.csv('Dados limpos')
```

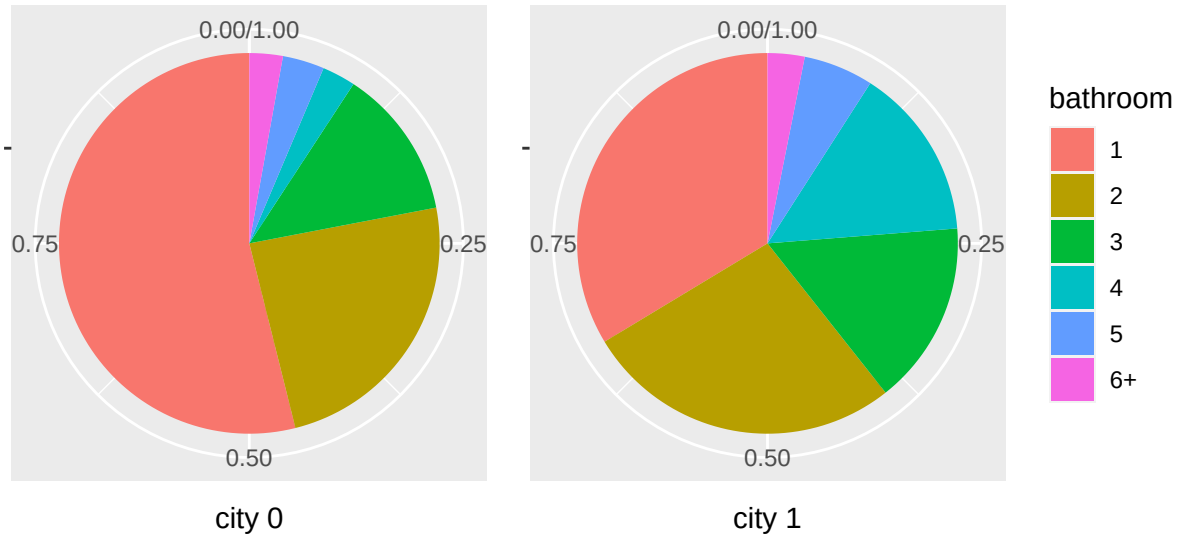
Utilizaremos de uma amostra da base de dados de imóveis para alugar. Para entender como a coord_polar() funciona, foi feito um pie chart simples da porcentagem de imóveis anunciados de cada cidade:

```
city <- Tabela %>% tabyl(city)

city %>% ggplot(aes(x="", y=percent, fill = as.factor(city))) +
  geom_bar(width = 1, stat = "identity") +
  labs(x = NULL, y = NULL, fill = "city") +
  coord_polar("y", start=0)
```



A seguir temos variações que são dois gráficos de uma categoria dos imóveis pela cidade:

```r
b0 <- Tabela %>%
  filter(city == 0) %>%
  mutate(bathroom = ifelse(bathroom>=6, "6+", bathroom)) %>%
  tabyl(bathroom)

b1 <- Tabela %>%
  filter(city == 1) %>%
  mutate(bathroom = ifelse(bathroom>=6, "6+", bathroom)) %>%
  tabyl(bathroom)

bathroom_0 <- b0 %>%
  ggplot(aes(x="", y=percent, fill = as.factor(bathroom))) +
  geom_bar(width = 1, stat = "identity") +
  labs(x = NULL, y = "city 0", fill = NULL) +
  theme(legend.position="none") +
  coord_polar("y", start=0)

bathroom_1 <- b1 %>%
  ggplot(aes(x="", y=percent, fill = as.factor(bathroom))) +
  geom_bar(width = 1, stat = "identity") +
  labs(x = NULL, y = "city 1", fill = "bathroom") +
  theme(legend.position="right") +
  coord_polar("y", start=0)



bathroom_0 + bathroom_1
```



Adicionando ao final novamente a função coor_polar() chegamos no bullseye chart:

```
b0 <- Tabela %>%
  filter(city == 0) %>%
  mutate(rooms = ifelse(rooms>=5, "5+", rooms)) %>%
  tabyl(rooms)

b1 <- Tabela %>%
  filter(city == 1) %>%
  mutate(rooms = ifelse(rooms>=5, "5+", rooms)) %>%
  tabyl(rooms)


rooms_0 <- b0 %>%
  ggplot(aes(x="", y=percent, fill = as.factor(rooms))) +
  geom_bar(width = 1, stat = "identity") +
  labs(x = NULL, y = "city 0", fill = NULL) +
  theme(legend.position="none") +
  coord_polar("y", start=0) +
  coord_polar()
```

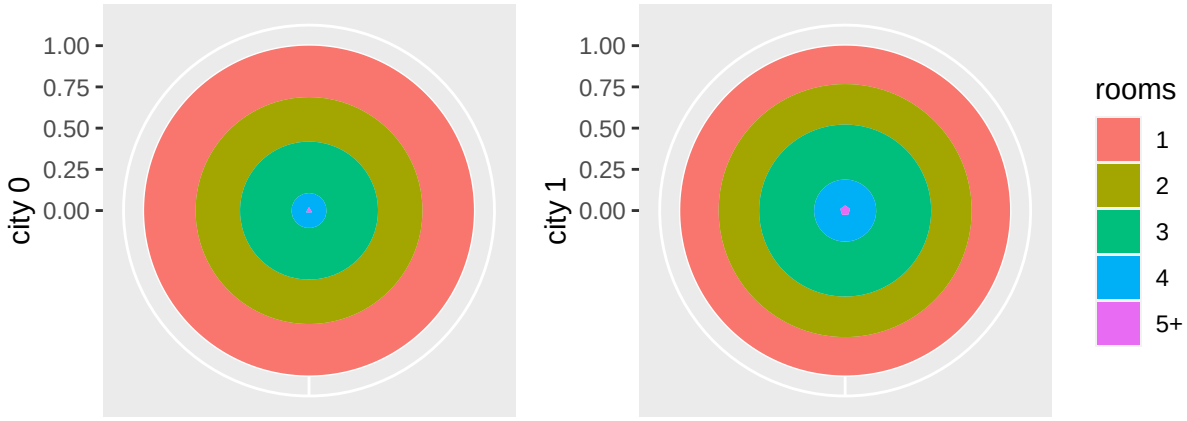
```
## Coordinate system already present. Adding new coordinate system, which will replace the existing one
```

```
rooms_1 <- b1 %>%
  ggplot(aes(x="", y=percent, fill = as.factor(rooms))) +
```

```
  geom_bar(width = 1, stat = "identity") +
  labs(x = NULL, y = "city 1", fill = "rooms") +
  theme(legend.position="right") +
  coord_polar("y", start=0) +
  coord_polar()
```

```
## Coordinate system already present. Adding new coordinate system, which will replace the existing one
```

```
rooms_0 + rooms_1
```



Mudando o start redefinimos onde o gráfico começa a ser desenhado, neste caso o deslocamos 60 graus, e mudamos o direction que por padrão desenha no sentido horário, agora desenhará no anti-horário:

```
b0 <- Tabela %>%
  filter(city == 0) %>%
  mutate(parking.spaces = ifelse(parking.spaces>=7, "7+", parking.spaces)) %>%
  tabyl(parking.spaces)

b1 <- Tabela %>%
  filter(city == 1) %>%
  mutate(parking.spaces = ifelse(parking.spaces>=7, "7+", parking.spaces)) %>%
  tabyl(parking.spaces)


parking.spaces_0 <- b0 %>%
```

```
  ggplot(aes(x="", y=percent, fill = as.factor(parking.spaces))) +
  geom_bar(width = 1, stat = "identity") +
  labs(x = NULL, y = "city 0", fill = NULL) +
  theme(legend.position="none") +
  coord_polar("y", start=pi/3, direction = -1)

parking.spaces_1 <- b1 %>%
  ggplot(aes(x="", y=percent, fill = as.factor(parking.spaces))) +
  geom_bar(width = 1, stat = "identity") +
  labs(x = NULL, y = "city 1", fill = "parking.spaces") +
  theme(legend.position="right") +
  coord_polar("y", start=pi/3, direction = -1)


parking.spaces_0 + parking.spaces_1
```