ggplot2 class

```
library(ggplot2)
library(dplyr)
```

```
marvel_raw <- read.csv("marvel-wikia-data.csv", na.strings = "")
```

BARPLOT

Conteggio automatico

```
ggplot(data=marvel_raw,
       aes(x=SEX)) +
  geom_bar() +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```

Con fill

```
ggplot(data=marvel_raw,
       aes(x=SEX, fill = ALIVE)) +
  geom_bar() +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```

Position dodge

```
ggplot(data=marvel_raw,
       aes(x=SEX, fill = ALIVE)) +
  geom_bar(position = "dodge") +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```

Position fill

```
ggplot(data=marvel_raw,
       aes(x=SEX, fill = ALIVE)) +
  geom_bar(position = "fill") +
    theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```

Conteggio manuale

```
sex_count <- marvel_raw %>%
  group_by(SEX) %>%
  summarise(n_character = n())
```

```
ggplot(sex_count,
       aes(x = SEX, y = n_character)) +
  geom_col() +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```

Con fill

```
sex_count <- marvel_raw %>%
  group_by(SEX, ALIVE) %>%
  summarise(n_character = n())
```

```
ggplot(sex_count,
       aes(x = SEX, y = n_character, fill = ALIVE)) +
  geom_col(position = "fill") +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```

PIE

```
ggplot(marvel_raw,
       aes(factor(1), fill=SEX)) +
  geom_bar(width = 1) +
  coord_polar(theta = "y") +
  theme_void()
```

SCATTERPLOT

```
marvel <- marvel_raw %>%
  mutate(y_activity = 2019-Year)
```

```
ggplot(marvel,
       aes(y_activity, APPEARANCES, color = SEX)) +
  geom_point()
```

Filter sui dati

```
ggplot(marvel %>% filter(APPEARANCES > 200),
       aes(y_activity, APPEARANCES, color = SEX)) +
  geom_point()
```

Altre estetiche: shape, size, alpha

```
ggplot(marvel %>% filter(APPEARANCES > 200),
       aes(y_activity, APPEARANCES, color = SEX,
           shape = ALIGN, size = ALIVE, alpha = 0.5)) +
  geom_point()
```

Serie storiche

Barplot

```
ggplot(marvel, aes(Year, fill = SEX)) +
  geom_bar() +
  theme_minimal()
```

Line plot

```
ggplot(marvel, aes(x = Year)) +
  geom_line(stat = "count") +
  theme_minimal()
```

Raggruppamento per colore

```
ggplot(marvel, aes(Year, color = SEX)) +
  geom_line(stat = "count") +
  theme_minimal()
```

Add points

```
ggplot(marvel, aes(Year, color = SEX)) +
  geom_line(stat = "count") +
  geom_point(stat = "count") +
  theme_minimal()
```

Modificare label e palette

```
ggplot(marvel, aes(Year, color = SEX)) +
  geom_line(stat = "count") +
  geom_point(stat = "count") +
  scale_color_brewer(palette = 2, type = "qual") +
  ggtitle("Andamento nuovi personaggi per anno") +
  labs(x = "Anno", y = "Numero personaggi")
```

Faceting

```
ggplot(marvel, aes(Year, color = SEX)) +
  geom_line(stat = "count") +
  geom_point(stat = "count") +
  facet_grid(ALIVE~., scales =  "free") +
  theme_minimal()
```

```
ggplot(marvel, aes(Year, color = SEX)) +
  geom_line(stat = "count") +
  geom_point(stat = "count") +
  scale_color_brewer(palette = 2, type = "qual") +
  facet_grid(ALIVE~., scales =  "free")
```

```
ggplot(marvel, aes(Year, color = SEX)) +
  geom_line(stat = "count") +
  scale_color_brewer(palette = 2, type = "qual") +
  facet_grid(ALIVE~ALIGN, scales =  "free")
```