

# Improving Your Visualizations: Takeaways



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## Syntax

Plotting multiple columns on the same set of axes:

```
data %>%  
  ggplot(aes(x = variable_1)) +  
  geom_line(aes(y = variable_2)) +  
  geom_line(aes(y = variable_3))
```

Converting data from wide to long format:

```
life_expec_long <- life_expec %>%  
  pivot_longer(  
    cols = c(avg_life_expec, scaled_age_adj_death_rate),  
    names_to = "column",  
    values_to = "value"  
  )
```

Using `color_scale_manual()` to change up the legend: `` # Assuming that `group_var` has one of two values: "A" or "B"

```
data %>%  
  ggplot(aes(x = variable_1, y = variable_2, color = group_var)) +  
  geom_line() +  
  scale_color_manual(  
    name = "Grouping Variable", # title of legend  
    values = c("red", "blue"), # colors of lines on plot and legend  
    breaks = c("B", "A"), # Showing B group before A  
    labels = c("Group B", "Group A") # labels for each group on legend  
  )  
``
```

Using `facet_wrap()` to create multiple graphs stratified by a grouping variable:

```
life_expect %>%  
  filter(race != "All Races", sex == "Female") %>%  
  ggplot(aes(x = year, y = avg_life_expect)) +  
  geom_line() +  
  facet_wrap(vars(race))
```

Using `facet_grid()` to create multiple graphs stratified by multiple grouping variable:

```
data %>%  
  ggplot(aes(x = variable_1, y = variable_2)) +  
  geom_line() +  
  facet_grid(  
    rows = vars(group_var_1),  
    cols = vars(group_var_2)  
  )
```

## Concepts

- Wide format data typically has many columns, some containing the same type of information. Long format data takes this information and tries to keep it all in one column.
- Humans find wide format data easier to read, but `ggplot2` works better with long format data
- You can use `facet_wrap()` and `facet_grid()` to create multiple graphs based on different groups in a dataset

## Resources

- [Reference for the ggplot2 package](#)