Bar Charts in ggplot With Multiple Outcomes

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Contents

1   Setup

```
library(ggplot2) # beautiful graphs

library(tidyr) # tidy data
```

2   Simulated Data

```
x <- c(1,2,3) # independent variable

y <- c(4,5,6) # first outcome

z <- c(7,8,3) # second outcome

mydata <- tibble(x,y,z)

mydata # replay mydata

## # A tibble: 3 x 3
##       x       y       z
##    <dbl> <dbl> <dbl>
## 1      1      4       7
## 2      2      5       8
## 3      3      6       3
```

3   Reshape Data With `pivot_longer`

```
myReshapedData <- mydata %>% pivot_longer(2:3,
                                          names_to = "newnames",
                                          values_to = "newvalues")


myReshapedData # replay myReshapedData

## # A tibble: 6 x 3
##       x newnames newvalues
##   <dbl> <chr>        <dbl>
## 1     1 y                4
## 2     1 z                7
## 3     2 y                5
## 4     2 z                8
## 5     3 y                6
## 6     3 z                3
```
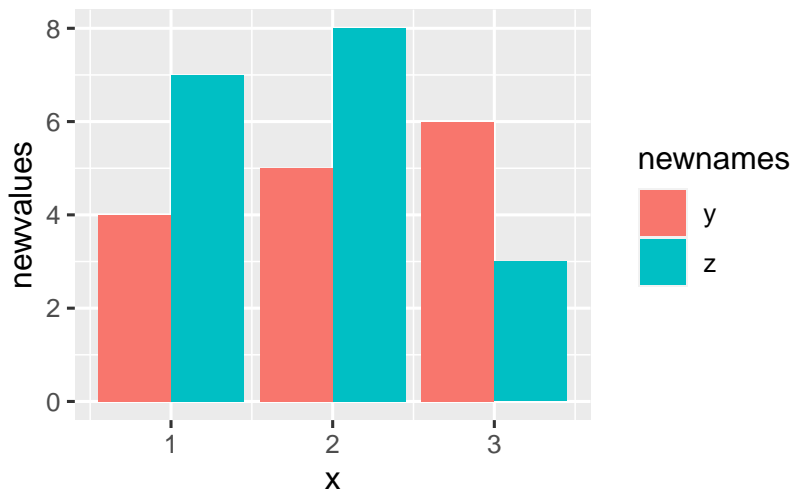
4   Graphs

4.1   Bar Chart With Unstacked Bars

```
ggplot(myReshapedData, # data I am using
       aes(x = x, # x is newnames
           y = newvalues, # y is newvalues
           fill = newnames)) + # fill is newnames
  geom_bar(stat = "identity", # y is actual bar height
           position = position_dodge()) # unstack bars
```

4.2   Line Chart

```
ggplot(myReshapedData, # data I am using
       aes(x = x, # x is x
           y = newvalues, # y is value
           color = newnames, # color is key
           group = newnames)) + # line needs a group aesthetic
  geom_line()
```