

What are the default colors in ggplot2 and how can they be utilized in data visualization?

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GGplot2 is a popular data visualization package in R that allows for the creation of visually appealing and informative graphics. The default colors in ggplot2 are carefully chosen to provide a visually appealing color palette for data visualization. These colors include a range of blues, greens, oranges, and purples that are easy on the eyes and suitable for most types of data. The colors can be utilized in data visualization by using the "scale_color_grey()" function, which maps the data to the default colors, or by specifying the colors manually using the "scale_color_manual()" function. This allows for the customization and adaptation of the default colors to fit the specific needs and preferences of the user. Additionally, the default colors can be modified and expanded upon by using other functions and packages, providing a wide range of options for data visualization.

A Complete Guide to the Default Colors in ggplot2

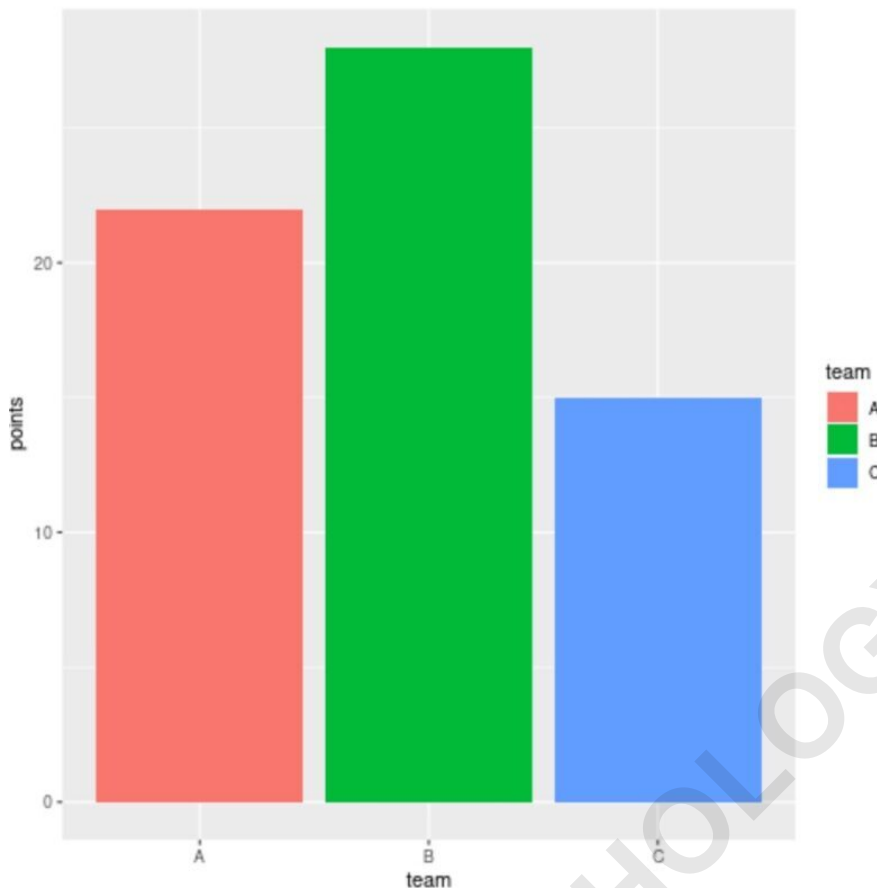
The package has a list of default colors that it uses for the elements in a plot depending on the number of total elements.

For example, the following code shows how to create a bar plot with three bars:

```
library(ggplot2)

#create data frame
df <- data.frame(team=c('A', 'B', 'C'),
points=c(22, 28, 15))

#create bar plot using df
ggplot(df, aes(x=team, y=points, fill=team)) +
geom_bar(stat = "identity")
```



By default, ggplot2 chooses to use a specific shade of red, green, and blue for the bars.

We can use the `hue_pal()` from the `scales` package to extract the actual hex color codes used in the plot:

```
library(scales)
```

```
#extract hex color codes for a plot with three elements  
in ggplot2
```

```
hex <- hue_pal()(3)
```

#display hex color codes

hex

```
"#F8766D" "#00BA38" "#619CFF"
```

Here's how to interpret the output:

The hex color code for the red in the plot is #F8766D. The hex color code for the green in the plot is #00BA38. The hex color code for the blue in the plot is #619CFF.

We can also use `show_col()` from the `scales` package to overlay the hex color codes on their actual colors:

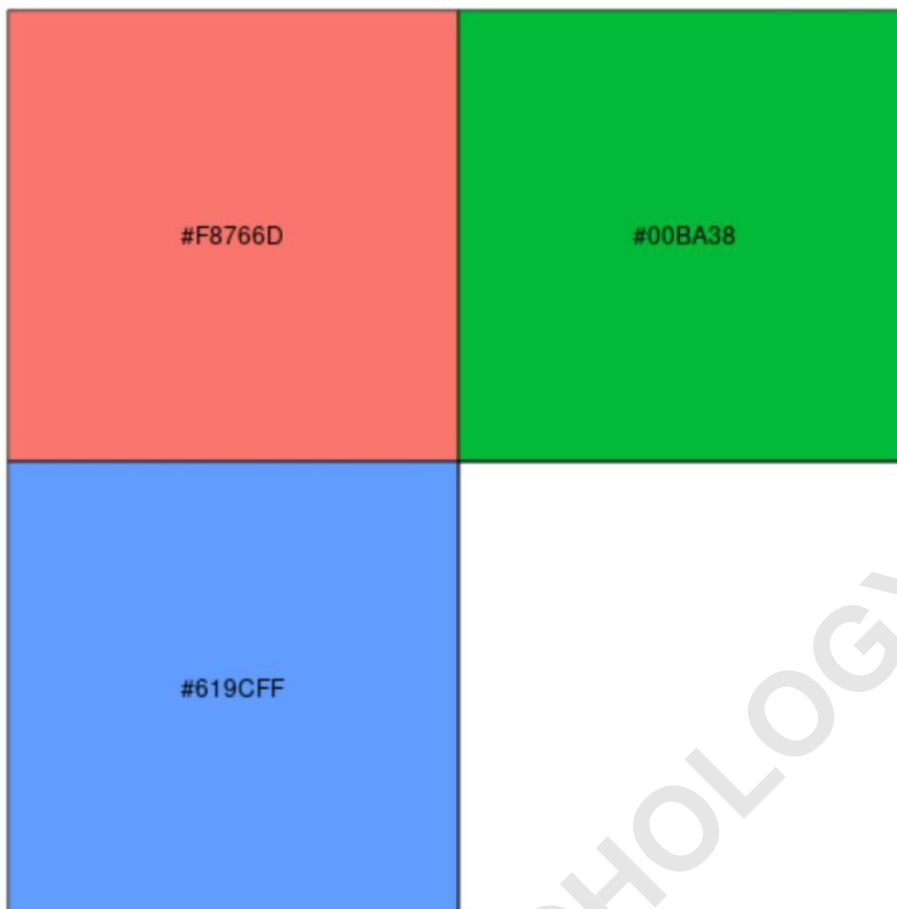
```
library(scales)
```

```
#extract hex color codes for a plot with three elements  
in ggplot2
```

```
hex <- hue_pal()(3)
```

```
#overlay hex color codes on actual colors
```

```
show_col(hex)
```



And we can use the following code to create a plot that shows the default ggplot2 colors for plots with one through eight elements:

```
library(scales)
```

```
#set margins of plot area
```

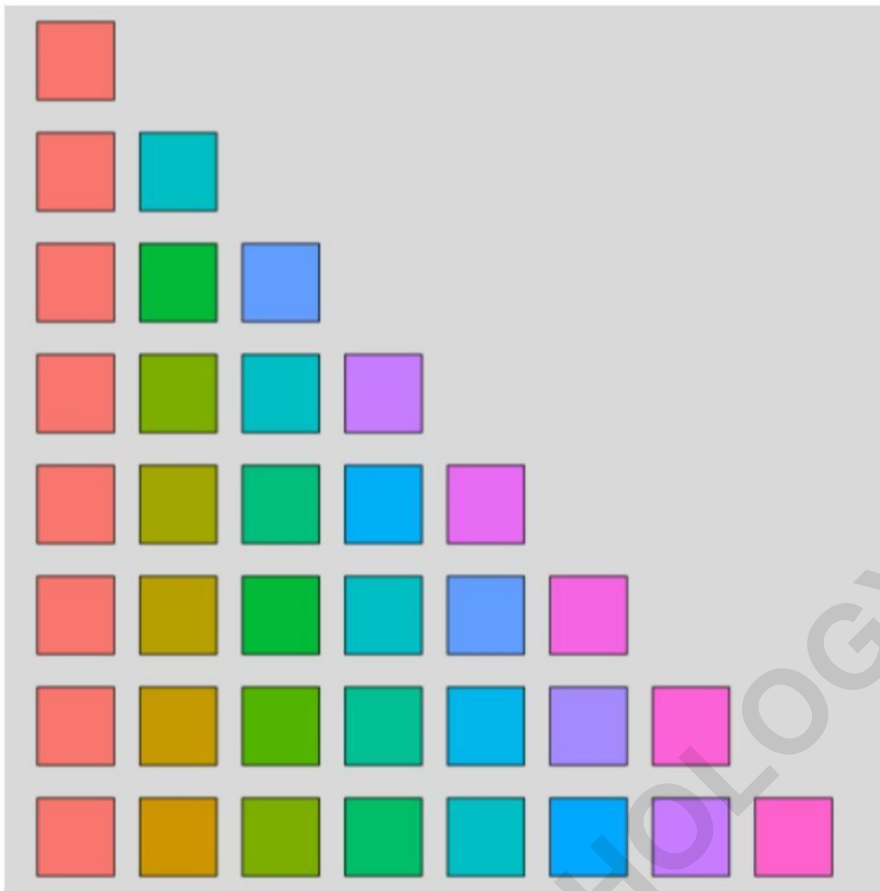
```
par(mai = c(0.1, 0, 0.1, 0), bg = "grey85")
```

```
#create plot with ggplot2 default colors from 1 to 8
```

```
gc.grid <- layout(matrix(1:8, nrow = 8))
```

```
for(i in 1:8){  
gc.ramp <- hue_pal()(i)  
plot(c(0, 8), c(0,1),  
type = "n",  
bty="n",  
xaxt="n",  
yaxt="n", xlab="", ylab="")  
for(j in 1:i){  
rect(j - 1, 0, j - 0.25, 1, col = gc.ramp)  
}  
}
```

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And we can use the following code to display the hex color codes for each color shown in the plot:

```
library(scales)
```

```
#display ggplot2 default hex color codes from 1 to 8
```

```
for(i in 1:8){
```

```
  print(hue_pal()(i))
```

```
}
```

```
"#F8766D"
```

"#F8766D" "#00BFC4"

"#F8766D" "#00BA38" "#619CFF"

"#F8766D" "#7CAE00" "#00BFC4" "#C77CFF"

"#F8766D" "#A3A500" "#00BF7D" "#00B0F6"

"#E76BF3"

"#F8766D" "#B79F00" "#00BA38" "#00BFC4" "#619CFF"

"#F564E3"

"#F8766D" "#C49A00" "#53B400" "#00C094" "#00B6EB"

"#A58AFF" "#FB61D7"

"#F8766D" "#CD9600" "#7CAE00" "#00BE67"

"#00BFC4" "#00A9FF" "#C77CFF" "#FF61CC"

Additional Resources