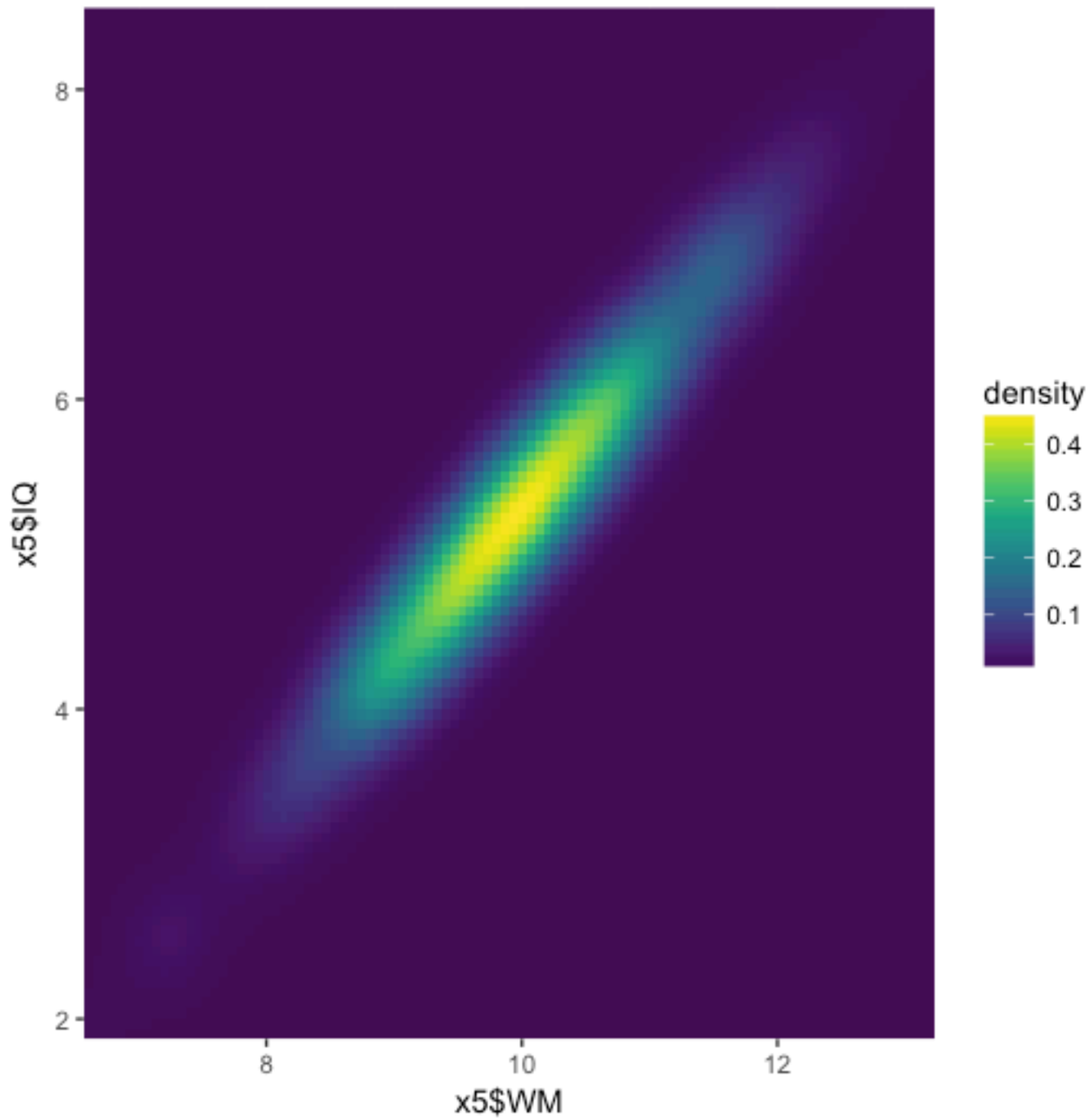
If IQ and WM were perfectly (positively) correlated, we'd have something like this…

```
> #creating two perfectly
correlated variables
> set.seed(1234)
> mysigma <- matrix(c(1,1,1,1),
2,2)
> x1 <- mvrnorm(n = 1000,
c(5.3,10), mysigma)
> x5 <- as.data.frame(x1)
> colnames(x5) <- c("IQ", "WM")

> ggplot(x5, aes(x = WM, y = IQ))
+ stat_density_2d(aes(fill
= ..density..), geom = 'raster',
contour = FALSE) +
scale_fill_viridis() +
coord_cartesian(expand = FALSE)
```



A Variety of Plots Using the Same Dataset

We're going to use the built-in dataset 'mpg' to build a variety of plots. First, let's find out about the data by using the `head` function to view the first part of the data.

```
> head(mpg)
# A tibble: 6 x 11
  manufacturer model displ  year   cyl trans      drv     cty   hwy fl    class
  <chr>        <chr> <dbl> <int> <int> <chr>      <chr> <int> <int> <chr> <chr>
1 audi         a4      1.8  1999     4 auto(l5)   f        18    29 p     compact
2 audi         a4      1.8  1999     4 manual(m5) f        21    29 p     compact
3 audi         a4      2    2008     4 manual(m6) f        20    31 p     compact
4 audi         a4      2    2008     4 auto(av)   f        21    30 p     compact
5 audi         a4      2.8  1999     6 auto(l5)   f        16    26 p     compact
6 audi         a4      2.8  1999     6 manual(m5) f        18    26 p     compact
```