Problem 3.3

true

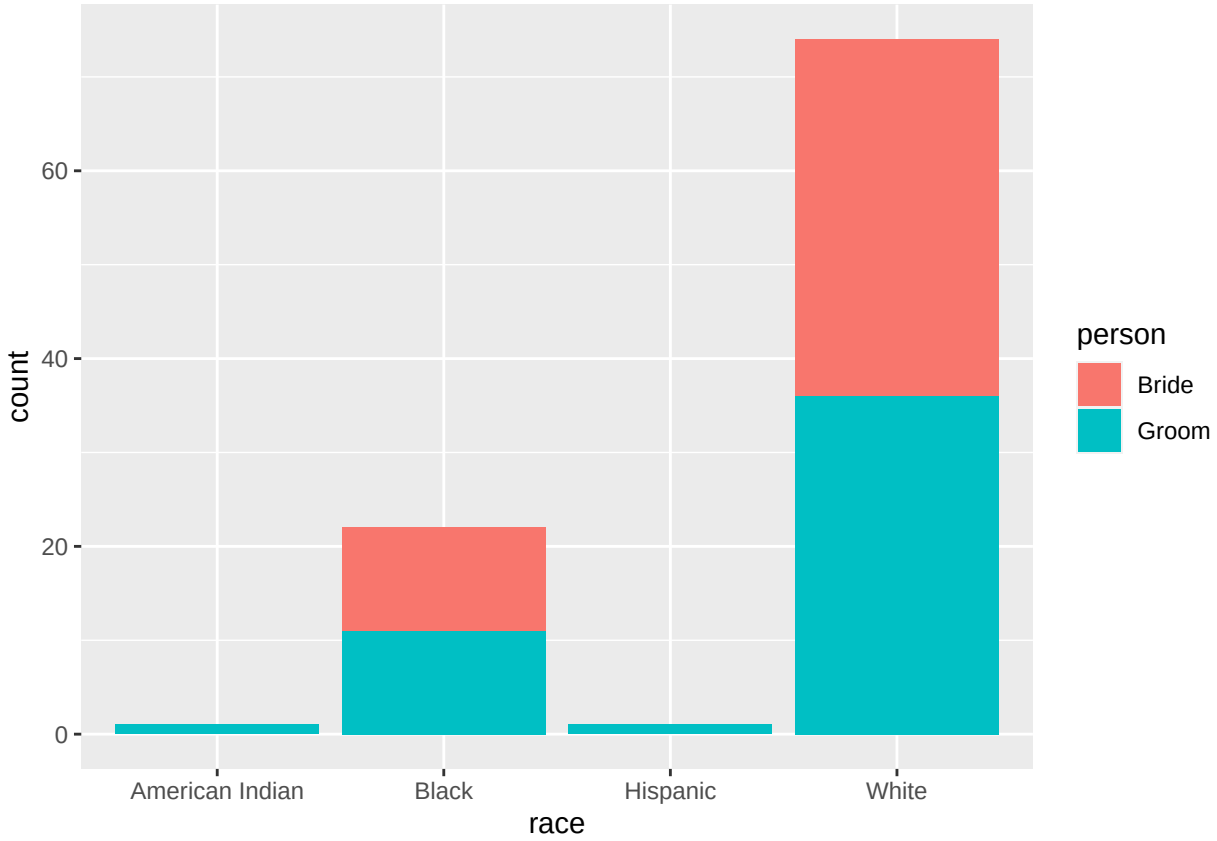
2/21/2022

Problem 3 (Medium): The following questions use the c(5, 6, 7, 8, 9, 1, 2, 3, 4, 16, 14, 15, 17, 18, 10, 11, 12, 13, 21, 24, 25, 26, 19, 20, 22, 23, 29, 32, 33, 34, 35, 27, 28, 30, 31, 41, 40, 42, 43, 36, 37, 38, 39, 47, 44, 45, 46, 48, 49, 5, 6, 7, 8, 9, 1, 2, 3, 4, 16, 14, 15, 17, 18, 10, 11, 12, 13, 21, 24, 25, 26, 19, 20, 22, 23, 29, 32, 33, 34, 35, 27, 28, 30, 31, 41, 40, 42, 43, 36, 37, 38, 39, 47, 44, 45, 46, 48, 49), c(9798, 9812, 9819, 9832, 9839, 9856, 9869, 9902, 9923, 9932, 9941, 9958, 9973, 9981, 10004, 10015, 10030, 10056, 10080, 10091, 10108, 10128, 10154, 10165, 10191, 10226, 10256, 10269, 10284, 10298, 10316, 10339, 10347, 10372, 10386, 10395, 10420, 10438, 10451, 10484, 10501, 10513, 10539, 10542, 10562, 10574, 10583, 10613, 10627, 9798, 9812, 9819, 9832, 9839, 9856, 9869, 9902, 9923, 9932, 9941, 9958, 9973, 9981, 10004, 10015, 10030, 10056, 10080, 10091, 10108, 10128, 10154, 10165, 10191, 10226, 10256, 10269, 10284, 10298, 10316, 10339, 10347, 10372, 10386, 10395, 10420, 10438, 10451, 10484, 10501, 10513, 10539, 10542, 10562, 10574, 10583, 10613, 10627), c(9809, 9812, 9827, 9837, 9844, 9856, 9885, 9902, 9951, 9942, 9949, 9958, 9977, 9985, 10004, 10019, 10039, 10056, 10083, 10103, 10110, 10130, 10154, 10165, 10191, 10226, 10256, 10271, 10292, 10320, 10316, 10340, 10369, 10376, 10404, 10397, 10439, 10438, 10451, 10495, 10501, 10522, 10539, 10558, 10565, 10574, 10583, 10622, 10628, 9809, 9812, 9827, 9837, 9844, 9856, 9885, 9902, 9951, 9942, 9949, 9958, 9977, 9985, 10004, 10019, 10039, 10056, 10083, 10103, 10110, 10130, 10154, 10165, 10191, 10226, 10256, 10271, 10292, 10320, 10316, 10340, 10369, 10376, 10404, 10397, 10439, 10438, 10451, 10495, 10501, 10522, 10539, 10558, 10565, 10574, 10583, 10622, 10628), c(11, 0, 8, 5, 5, 0, 16, 0, 28, 10, 8, 0, 4, 4, 0, 4, 9, 0, 3, 12, 2, 2, 0, 0, 0, 0, 0, 2, 8, 22, 0, 1, 22, 4, 18, 2, 19, 0, 0, 11, 0, 9, 0, 16, 3, 0, 0, 9, 1, 11, 0, 8, 5, 5, 0, 16, 0, 28, 10, 8, 0, 4, 4, 0, 4, 9, 0, 3, 12, 2, 2, 0, 0, 0, 0, 0, 2, 8, 22, 0, 1, 22, 4, 18, 2, 19, 0, 0, 11, 0, 9, 0, 16, 3, 0, 0, 9, 1), c(4, 6, 6, 7, 7, 6, 6, 6, 6, 7, 8, 3, 6, 7, 6, 8, 8, 6, 9, 8, 8, 7, 6, 6, 6, 6, 6, 5, 8, 2, 6, 8, 8, 7, 6, 1, 8, 6, 6, 8, 6, 7, 6, 7, 8, 6, 6, 7, 7, 4, 6, 6, 7, 7, 6, 6, 6, 6, 7, 8, 3, 6, 7, 6, 8, 8, 6, 9, 8, 8, 7, 6, 6, 6, 6, 6, 5, 8, 2, 6, 8, 8, 7, 6, 1, 8, 6, 6, 8, 6, 7, 6, 7, 8, 6, 6, 7, 7), c(2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1), c(34434, 34551, 33653, 31551, 35411, 51, 648, 33633, 2163, 29767, 31082, 35747, 2435, 3209, 30983, 32838, 35093, 3060, 26713, 28628, 27493, 30283, 32434, 32877, 1061, 582, 3215, 3569, 31872, 426, 2977, 28020, 1933, 34489, 1869, 31741, 19864, 20895, 26080, -103, 26719, 3718, 3800, 3178, 31094, 33135, 1600, 22479, 32860, 35849, 27142, 68, 31914, 1087, 687, 706, 2439, 2635, 30518, 34070, 1211, 3765, 2588, 32682, 32202, 2295, 3028, 28443, 30489, 30933, 30224, 140, 32594, 2608, 33872, 3139, 3832, 31382, -64, 3600, 31143, 2624, 31243, 3363, 32374, 22129, 20390, 27086, 2234, 28749, 4583, 3867, 2811, 35587, 33412, 2211, 21330, 973), c(32.60273973, 32.29041096, 34.79178082, 40.57808219, 30.02191781, 26.8630137, 25.30684932, 35.05205479, 21.3369863, 45.75342466, 42.16986301, 29.41369863, 20.6630137, 18.56438356, 42.59178082, 37.55068493, 31.42739726, 19.16712329, 54.50684932, 49.31506849, 52.44383562, 44.85479452, 39.02739726, 37.84383562, 25.01369863, 26.42191781, 19.29041096, 18.36164384, 40.94520548, 27.10684932, 20.10684932, 51.63013699, 23.11232877, 34.00547945, 23.38356164, 41.59178082, 74.24657534, 71.41917808, 57.24931507, 29.03561644, 55.63561644, 18.64109589, 18.4630137, 20.21917808, 43.82465753, 38.25753425, 24.6109589, 67.58356164, 39.15890411, 28.7260274, 52.5890411, 26.7369863, 39.58356164, 23.99178082, 25.12054795, 25.14794521, 20.44657534, 20.04383562, 43.69589041, 33.98356164, 23.96438356, 17.01917808, 20.26575342, 37.9369863, 39.29315068, 21.21643836, 19.25479452, 49.76712329, 44.21643836, 43.01917808, 45.01643836, 27.43561644, 38.61917808, 20.77534247, 35.28493151, 19.49863014, 17.64109589, 42.28767123, 28.44931507, 18.4, 43.0739726, 21.21917808, 42.89863014, 19.29041096, 39.85753425, 68.04109589, 72.80273973, 54.49315068, 22.63287671, 50.0739726, 16.27123288, 18.27945205, 21.22465753, 31.51506849, 37.49863014, 22.9369863,

70.73150685, 26.45205479), c(4, 4, 3, 2, 4, 4, 4, 4, 2, 4, 2, 4, 4, 4, 4, 1, 4, 2, 4, 4, 4, 2, 2, 4, 4, 4, 2, 2, 4, 4, 4, 4, 4, 4, 4, 2, 4, 4, 2, 4, 4, 4, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 2, 4, 4, 4, 4, 2, 4, 2, 4, 4, 4, 4, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 2, 4, 4, 2, 4, 4, 4, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4), c(0, 1, 1, 1, 0, 1, 1, 1, 0, 3, 1, 1, 0, 0, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 2, 0, 0, 2, 0, 2, 0, 0, 1, 1, 1, 0, 2, 0, 0, 0, 2, 1, 0, 1, 5, 0, 0, 0, 1, 0, 1, 1, 0, 0, 1, 0, 1, 0, 0, 1, 1, 0, 0, 3, 1, 2, 2, 0, 2, 1, 2, 0, 0, 0, 0, 0, 3, 0, 1, 0, 0, 1, 1, 1, 0, 3, 0, 0, 0, 1, 3, 1, 2, 0), c(NA, 2, 2, 2, NA, NA, 2, 2, NA, 2, 2, 2, NA, NA, 2, NA, NA, NA, 1, 2, 1, 2, 2, 2, 2, NA, NA, NA, 2, NA, NA, 2, NA, 2, NA, NA, 1, 2, 2, NA, 2, NA, NA, NA, 2, 2, NA, 2, 2, NA, NA, NA, 2, NA, NA, 2, NA, NA, 2, NA, 2, NA, NA, 2, 1, NA, NA, 2, 2, 2, 2, NA, 2, 2, 2, NA, NA, NA, NA, NA, 2, NA, 2, NA, NA, 1, 2, 2, NA, 1, NA, NA, NA, 2, 2, 2, 1, NA), c(12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 10, 12, 12, 12, 12, 12, 12, 12, 9, 12, 12, 12, 12, 12, 9, 12, 12, 12, 12, 12, 12, 12, 9, 12, 12, 12, 12, 12, 11, 12, 12, 12, 12, 11, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 10, 12, 12, 12, 11, 10, 12, 12, 12, 12, 12, 10, 12, 12, 12, 12, 12, 12, 12, 9, 12, 12, 11, 10, 12, 12, 12, 12, 12, 12, 12, 12, 12, 11, 12, 12, 12, 12, 8, 12, 12), c(7, 0, 3, 4, 0, 0, 0, 0, 0, 6, 2, 1, 1, 0, 0, 4, 2, NA, NA, 0, 7, 0, 3, 1, 0, 1, 0, 0, 0, 2, 0, NA, 5, 4, 4, 0, 0, NA, 0, 2, 1, 0, 0, 2, NA, 2, 0, 7, 4, 2, 2, 1, 1, 6, 2, 0, 0, 0, 2, 2, 0, 0, 0, 0, 0, 2, NA, NA, 0, 2, 0, 2, 0, 2, NA, 0, 0, 6, 5, 0, 0, 3, 0, 0, NA, 5, 2, 0, 4, 4, 0, 0, NA, 2, 5, 0, 2, 4), c(102, 219, 51, 141, 348, 52, 284, 31, 338, 183, 37, 319, 245, 288, 303, 332, 30, 139, 51, 140, 100, 334, 293, 6, 332, 218, 294, 283, 96, 62, 56, 262, 108, 157, 44, 331, 142, 77, 148, 263, 57, 67, 149, 257, 49, 264, 140, 200, 354, 56, 115, 69, 138, 358, 323, 342, 249, 79, 203, 103, 116, 114, 32, 176, 61, 105, 107, 320, 174, 253, 275, 141, 88, 52, 270, 218, 181, 337, 302, 314, 98, 68, 198, 77, 233, 215, 302, 59, 44, 261, 201, 216, 255, 159, 175, 21, 147, 244), c(2, 6, 8, 5, 9, 8, 7, 1, 9, 3, 1, 10, 12, 7, 10, 9, 1, 11, 8, 11, 2, 9, 7, 4, 9, 6, 7, 7, 2, 8, 8, 12, 2, 5, 1, 9, 5, 8, 5, 12, 8, 8, 5, 12, 8, 12, 5, 3, 9, 8, 11, 8, 11, 4, 10, 9, 12, 2, 6, 2, 11, 11, 1, 3, 8, 2, 2, 10, 3, 12, 7, 5, 2, 8, 7, 6, 3, 9, 10, 10, 2, 8, 3, 8, 6, 6, 10, 8, 1, 12, 3, 6, 12, 5, 3, 1, 5, 12) data set from the mosaicData package. -1 Create an informative and meaningful data graphic. -2 Identify each of the visual cues that you are using, and describe how they are related to each variable. -3 Create a data graphic with at least five variables (either quantitative or categorical). For the purposes of this exercise, do not worry about making your visualization meaningful—just try to encode five variables into one plot.

The bar graph uses length to show the number of brides or grooms. It is using color to separate brides from grooms.

```
Marriage %>%
  ggplot(aes(race,fill=person)) +
  geom_bar()   #I don't think the students can group_by() yet this just shows the bride and grooms by r
```

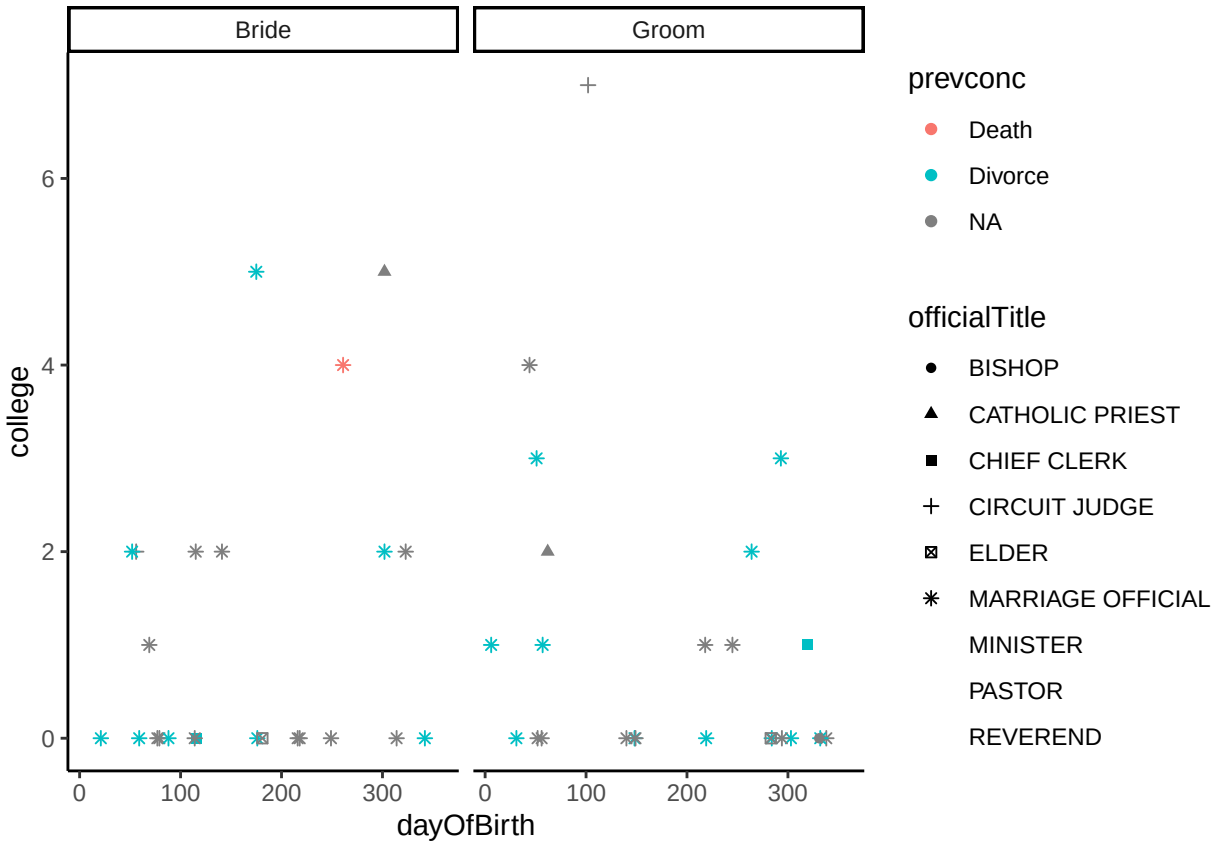



```
#This is my attempt at 5 different variables.

# Got 5 its not pretty
Marriage %>%
  ggplot(aes(dayOfBirth, college,color=prevconc , shape=officialTitle)) + #The color is set to prevconc
  geom_point()+    #Its a point plot
  facet_grid(cols=vars(person))+   #This makes two plots, one for bide and one for groom.
  theme_classic()  #I just like how this theme cleans things up.
```

```
## Warning: The shape palette can deal with a maximum of 6 discrete values because
## more than 6 becomes difficult to discriminate; you have 9. Consider
## specifying shapes manually if you must have them.
```

```
## Warning: Removed 49 rows containing missing values (geom_point).
```


Bride
Groom
college
dayOfBirth
0
2
4
6
0
100
200
300
prevconc
Death
Divorce
NA
officialTitle
BISHOP
CATHOLIC PRIEST
CHIEF CLERK
CIRCUIT JUDGE
ELDER
MARRIAGE OFFICIAL
MINISTER
PASTOR
REVEREND