Problem Set 2

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STAT 100, SECTION 0221

Problem Set starts on page 2

PROBLEM #1 - A

```
> #Problem 1(a-1) extract variable from a data frame, by Kristina Finley
> Sex <- Course_Data_Set$Sex
> Sex
   [1] "Female" "Female" "Female" "Male"   "Male"   "Female" "Male"   "Female"
   [9] "Female" "Male"   "Female" "Male"   "Female" "Other"  "Female" "Female"
  [17] "Male"   "Female" "Female" "Female" "Other"  "Male"   "Female" "Female"
  [25] "Male"   "Female" "Male"   "Male"   "Female" "Female" "Female" "Male"
  [33] "Male"   "Male"   "Female" "Male"   "Male"   "Female" "Female" "Female"
  [41] "Female" "Female" "Female" "Female" "Female" "Female" "Male"   "Female"
  [49] "Male"   "Female" "Male"   "Female" "Female" "Female" "Male"   "Female"
  [57] "Female" "Female" "Female" "Female" "Male"   "Female" "Female" "Female"
  [65] "Female" "Female" "Female" "Female" "Female" "Female" "Female" "Female"
  [73] "Male"   "Female" "Female" "Female" "Female" "Female" "Female" "Female"
  [81] "Female" "Male"   "Female" "Female" "Female" "Male"   "Female" "Female"
  [89] "Female" "Male"   "Male"   "Other"  "Male"   "Female" "Male"   "Male"
  [97] "Female" "Male"   "Female" "Female" "Female" "Female" "Female" "Female"
 [105] "Male"   "Female" "Female" "Male"   "Female" "Female" "Female" "Male"
 [113] "Female" "Female" "Male"   "Female" "Female" "Female" "Female" "Female"
 [121] "Male"   "Male"   "Female" "Male"   "Female" "Male"   "Female" "Male"
 [129] "Female" "Female" "Male"   "Female" "Male"   "Male"   "Male"   "Female"
 [137] "Female" "Male"   "Male"   "Male"   "Male"   "Male"   "Female" "Female"
 [145] "Female" "Male"   "Female" "Female" "Female" "Female" "Female" "Male"
 [153] "Female" "Female" "Female" "Female" "Female" "Male"   "Female" "Female"
```

```
> Age_Group <- Course_Data_Set$Age_group
> Age_Group
   [1] "22 or younger" "22 or younger" "23 - 28"       "22 or younger"
   [5] "22 or younger" "22 or younger" "22 or younger" "22 or younger"
   [9] "22 or younger" "22 or younger" "Over 35"       "29 -35"
  [13] "23 - 28"       "29 -35"        "22 or younger" "23 - 28"
  [17] "22 or younger" "22 or younger" "29 -35"        "22 or younger"
  [21] "22 or younger" "22 or younger" "22 or younger" "22 or younger"
  [25] "22 or younger" "22 or younger" "22 or younger" "22 or younger"
  [29] "22 or younger" "23 - 28"       "22 or younger" "22 or younger"
  [33] "29 -35"        "29 -35"        "22 or younger" "23 - 28"
  [37] "22 or younger" "22 or younger" "22 or younger" "22 or younger"
  [41] "23 - 28"       "22 or younger" "22 or younger" "22 or younger"
  [45] "22 or younger" "29 -35"        "22 or younger" "22 or younger"
  [49] "22 or younger" "Over 35"       "22 or younger" "29 -35"
  [53] "22 or younger" "22 or younger" "22 or younger" "22 or younger"
  [57] "22 or younger" "22 or younger" "22 or younger" "22 or younger"
```

```
> #Problem 1(a-2) create a freq. tables
> Sex_Freq_Table <- table(Sex)
> Sex_Freq_Table
Sex
Female   Male   Other
   824    552      11
> Age_Group_Freq_Table <- table(Age_Group)
> Age_Group_Freq_Table
Age_Group
22 or younger       23 - 28       29 -35       Over 35
         1137           147           60            43
>
> #create prop.tables
> Sex_Prop_Table <- prop.table(Sex_Freq_Table)
> Sex_Prop_Table
Sex
     Female         Male        Other
0.594087960 0.397981255 0.007930786
> Age_Group_Prop_Table <- prop.table(Age_Group_Freq_Table)
> Age_Group_Prop_Table
Age_Group
22 or younger       23 - 28       29 -35       Over 35
   0.81975487    0.10598414    0.04325883    0.03100216
>
```
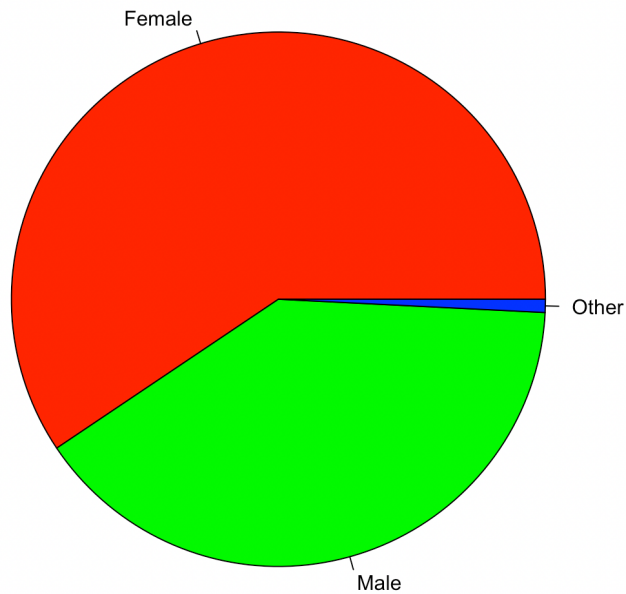
PROBLEM #1 - B

```
> #Problem 1(b) - create a pie chart
> pie(x = Sex_Freq_Table, col = rainbow(length(Sex_Freq_Table)), main =
+       "Pie Chart of Student Gender, created by Kristina Finley")
>
```
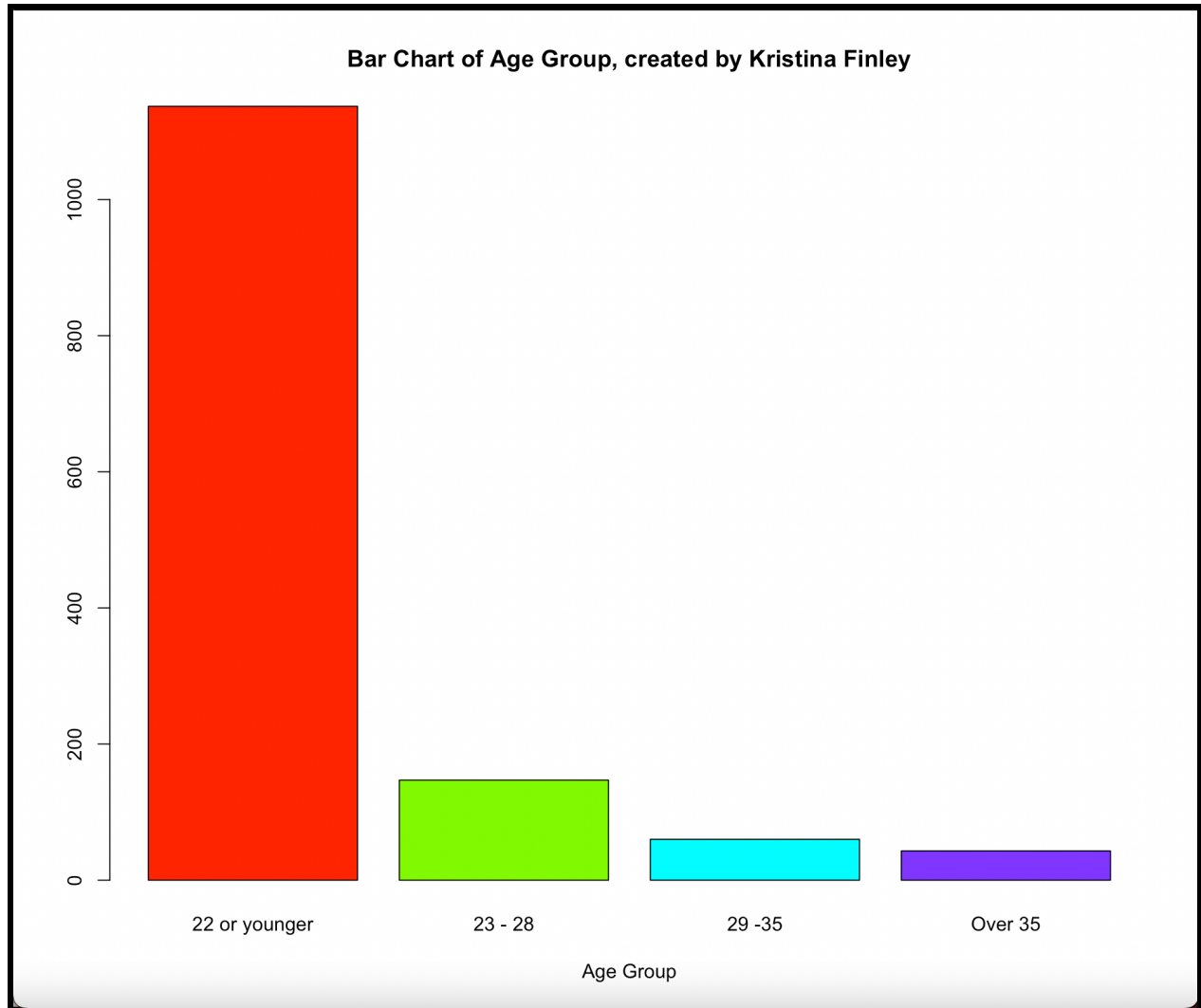
Pie Chart of Student Gender, created by Kristina Finley

PROBLEM #1 - C

```
> #Problem 1(c) - create a bar chart
> barplot(height = Age_Group_Freq_Table,
+         col = rainbow(length(Age_Group_Freq_Table)),
+         main ="Bar Chart of Age Group, created by Kristina Finley",
+         xlab = "Age Group")
>
```

Bar Chart of Age Group, created by Kristina Finley

PROBLEM #1 - D

The number of students that do not identify as male is 835 students. You have to take the sum of females and people who identify as "other" and you'll get the answer.

PROBLEM #1 - E

About 82% of students are younger than 22 years old. Also, about 10.5% are in the range of 23-28 years old. Taking the sum of those two, I got 92.57% of students are younger than 29 years old.