Answer to Question 3.3
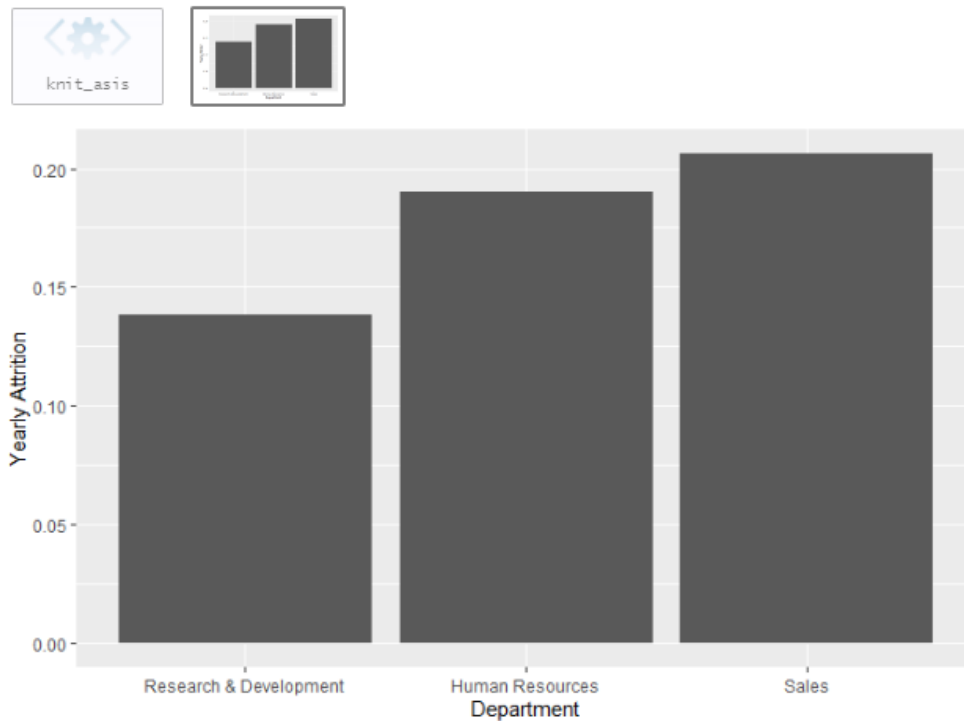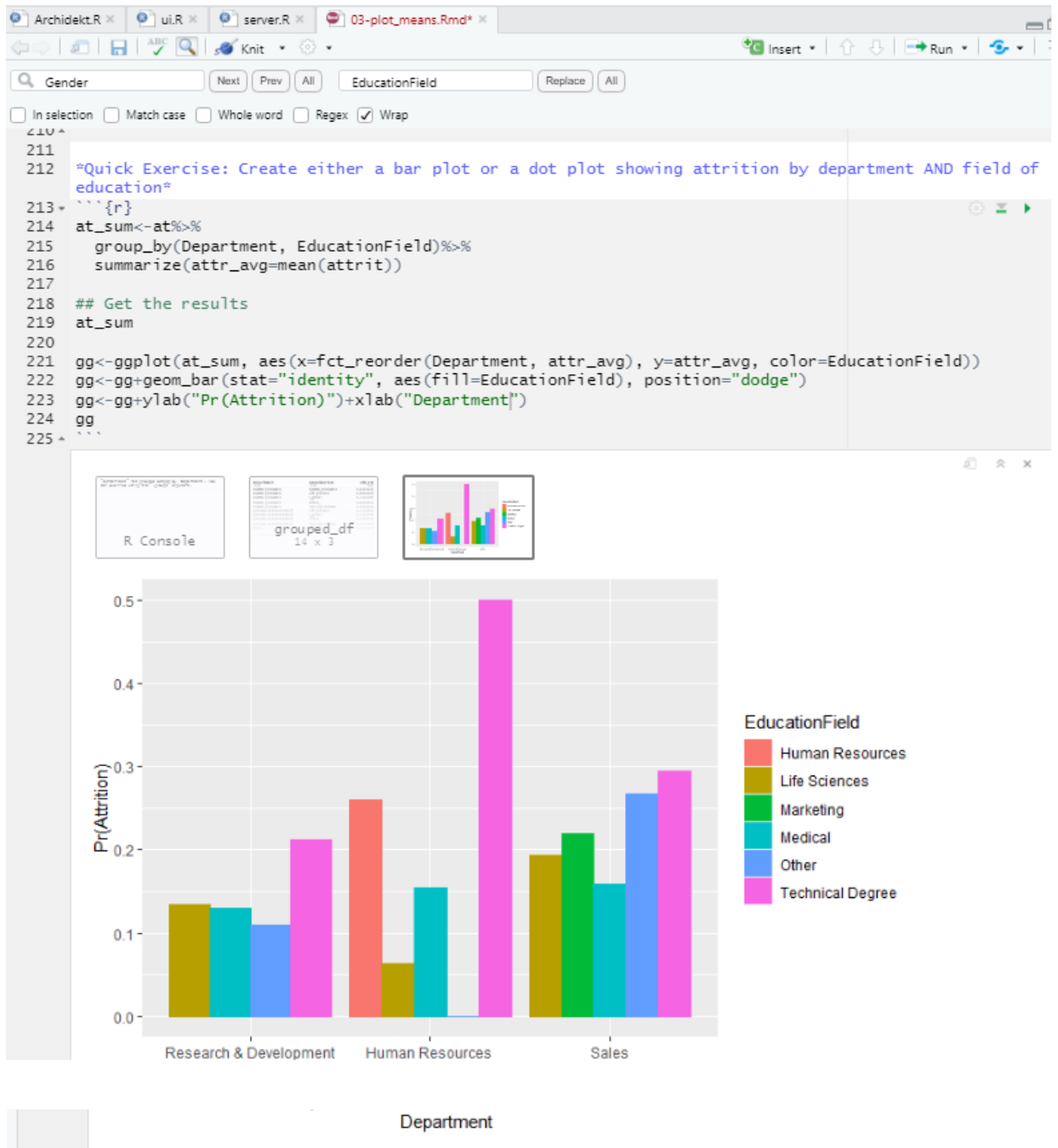
```r
138  ```{r}
139  at_sum<-at%>%
140    group_by(Department)%>%
141    summarize(attr_avg=mean(attrit))
142
143  at%>%
144    count(Department, attrit)%>%
145    group_by(Department)%>%
146    mutate(prop = prop.table(n)*100)%>% ##you can add a *100 here to convert these to percentages
147    select(-n)%>%
148    spread(attrit, prop)%>% #pretties the table up by adding 0/1 columns
149    kable() #also pretties the table up - formatting-wise
150
151  ## Same aesthetics, but now ordered by level
152  gg<-ggplot(at_sum, aes(x=fct_reorder(Department, attr_avg), y=attr_avg)) #reordered by level of
     attrition (lowest to highest, left to right)
153  gg<-gg+geom_bar(stat="identity")
154
155  ## Labeling
156  gg<-gg+xlab("Department")+ylab("Yearly Attrition")
157  ##Print
158  gg
159
160  ```
```


49:11   Chunk 11   R Markdown

Answer to Question 3.5

```
Knit    ▾    ⚙ ▾                                    ⁺G Insert ▾   ⬆ ⬇   → Run ▾   ⟳ ▾
```

```
🔍 Gender         Next  Prev  All    EducationField        Replace  All
☐ In selection  ☐ Match case  ☐ Whole word  ☐ Regex  ✓ Wrap
```

```r
211
212   *Quick Exercise: Create either a bar plot or a dot plot showing attrition by department AND field of
      education*
213 ▾ ```{r}                                                                    ⚙ ⤓ ▶
214   at_sum<-at%>%
215     group_by(Department, EducationField)%>%
216     summarize(attr_avg=mean(attrit))
217
218   ## Get the results
219   at_sum
220
221   gg<-ggplot(at_sum, aes(x=fct_reorder(Department, attr_avg), y=attr_avg, color=EducationField))
222   gg<-gg+geom_bar(stat="identity", aes(fill=EducationField), position="dodge")
223   gg<-gg+ylab("Pr(Attrition)")+xlab("Department")
224   gg
225 ▴ ```
```

Answer to Question 3.7

Either of these, depending on how you chose to do the analysis

Left panel:

```r
"Quick Exercise: Plot predicted attrition by Education Field, Department and Gender"
```{r}
at_sum<-at%>%
  group_by(Department, EducationField, Gender)%>%
  summarize(attr_avg=mean(attrit))%>%
  arrange(-attr_avg)

at_sum

gg<-ggplot(at_sum, aes(x=reorder(Department, attr_avg), y=attr_avg, fill=EducationField))
## Bar plot, with unstacked (dodge)
gg<-gg+geom_bar(stat="identity",position="dodge")
## Separate out by Marital Status
gg<-gg+facet_wrap(~Gender)
## Change orientation to sideways
gg<-gg+coord_flip()
## Print
gg
```
```

Right panel:

```r
"Quick Exercise: Plot predicted attrition by Education Field, Department and Gender"
```{r}
at_sum<-at%>%
  group_by(EducationField, Department, Gender)%>%
  summarize(attr_avg=mean(attrit))%>%
  arrange(-attr_avg)

at_sum

gg<-ggplot(at_sum, aes(x=reorder(EducationField, attr_avg), y=attr_avg, fill=Department))
## Bar plot, with unstacked (dodge)
gg<-gg+geom_bar(stat="identity",position="dodge")
## Separate out by Marital Status
gg<-gg+facet_wrap(~Gender)
## Change orientation to sideways
gg<-gg+coord_flip()
## Print
gg
```
```