

## Homework # ..., My Name.

This one contains solutions to some questions from both HW 1 & 2, simply for illustration of expectations for both (even though you haven't gotten the HW2 yet).

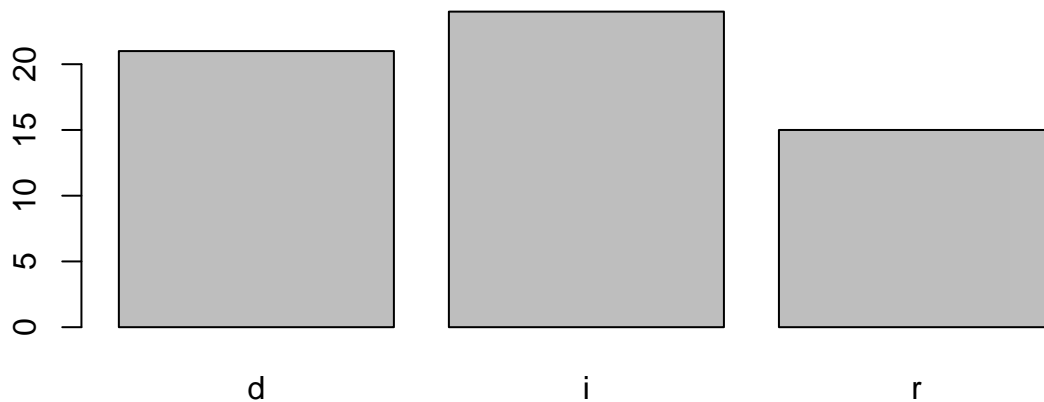
### Problem 1 (make sure to include code with outputs)

1. I will study the political affiliations (**keep in mind - you can't pick that variable**), which takes on three categories: democrat ("d"), independent ("i") and republican ("r"):

```
fl_data <- read.csv("~/Downloads/fl_student_survey.csv") # You file path will probably be different
table(fl_data$political_affiliation)
```

```
##
##  d  i  r
## 21 24 15
```

```
barplot(table(fl_data$political_affiliation))
```



Most students had independent political affiliation (24), second most - democratic (21), and the least - republican (15).

2. ...

## Problem 2

1.7

- a) 3077 people who responded;
- b) All adults in the United States;
- c) 23%.

1.8 ...

1.9

- a) A graduate student;
- b) A few students from a particular graduate program;
- c) All students from that graduate program.

1.10 ...

2.3

2.6

2.10

2.21

- a) Skewed to the right, because of a few expensive upscale houses.
- b) Skewed to the right, because of a few faculty tending to overdraw frequently.
- c) Symmetric, due to most being around average, with several over- and underachievers.
- d) Symmetric, just like with most physical characteristics: most are around average, with several really short and really tall girls.

2.34

2.37

```
miles <- c(0,0,4,0,0,0,10,0,6,0)
mean(miles)
```

```
## [1] 2
```

```
sort(miles)
```

```
## [1] 0 0 0 0 0 0 0 0 4 6 10
```

$$\text{Mean} = (0 + 0 + 4 + 0 + 0 + 0 + 10 + 0 + 6 + 0)/10 = 2$$

$$\text{Median} = \{5\text{th} + 6\text{th element}\}/2 = (0 + 0)/2 = 0$$

$$\text{Mode} = \{\text{Most frequent value}\} = 0$$

Interpretations:

- *Mean:* On a typical day, company employees average 2 miles of travel using public transportation.
- *Median:* On a typical day, median # of miles traveled by employees via public transportation is  $(0 + 0)/2 = 0$  (average of 5th and 6th employees).
- *Mode:* Most of the employees travel 0 miles using public transportation on a typical day.

...

**2.46**

**2.54**

**2.62**

**2.66**

**2.67**

**2.76**