1.

   a. How can you send a command from the *Source* pane to the *Console* Pane? If you are having trouble with this look for the 'run' button or see the *Installing R* handout from week one. (fun R fact: ***Source*** is actually the function!)

   >   Hit Run or ctrl enter

   b. What would be the code to add 9 and 1?

   > $> 9 + 1$

   c. What would be the code to add 365 and 1986

   > $>365 + 1986$

2.

   a.   3-4
   b.   7 divided by 10
   c.   6 times 89
   d.   8 raised to the 7th power
   e.   the square root of 52

3.

   a.   How would you create a name *y* and assign it the value 334

   >   y=334

   b.   how would you add the *x* and *y* together to get the sum of the two numbers?

   >   x + y

   c.   how would you create a new variable (*z*) that stores the result of x +y

   >   x + y = z

   d.   now, change the value of *x* to be 500 and see what happens when you add $x + y$ together? if you ask for the value of *z* now what do you get? Why?

   >   834, 376 because I didn't change it yet

   e.   what are the rules for what the name of an object in R can be? This can be found by searching online or using the R help function

   >   start with a letter or a dot

   >   letters, numbers, underscore characters, and dots

   >   No special key words

4. a <- 1.333

    numeric

    b <- TRUE

```
logical

c <-  "my name is"

character

d <- Sys.Date() # tricky

date
```

5. b. how would you get the sex of the third skeleton?
    my_study[3]
    c.   can you figure out how, in one line of code, to get the sex of the 1st and 4th
    skeleton?
    My_study[1]; my_study[4]

6. a.   how would you make a matrix by row rather than column (use google if need be)

    Byrow = true

    C. freq2 = c(1,2,2,2, 1,1,3,1, 2,2,2,2, 2,3,3,2)

    season = c("spring", "summer", "fall", "winter")

    size = c("small", "medium", "large", "XL")

    freqmat <- matrix(freq2, nr=4, nc=4, byrow=TRUE)

    dimnames(freqmat)[[1]] = season

    dimnames(freqmat)[[2]]= size

    freqmat

7. A. num <- c(1,2,3,4,5,6)

    food <- c("bread", "butter", "milk", "cheese","coffee", "tea")

    quantity <- c(1,1,3,5,7,1)

    shopping <- data.frame(num, food, quantity)

    B. bone, injury, sample letter =character, size =numeric

8. a.   is *a* bigger than *b*?

yes

    b.   is *c* equal to *d* (careful with this one..)

yes

    c.   is *c* less than or equal to *b*?

yes

    d.   make a new vector called *temp* with the values of 1,5,7,9,11,14,6,8. then write a single line of code that evaluates if 3 is greater than each of the values in the vector

3>= temp

    e.   how would you ask R if the 5th value in *temp* is larger than 5?

temp[[5]] >5

1.   <u>What the most challenging part of this homework?</u>

Definitely figuring out how to do code that we were not given.

2.   <u>What could be more clear? What info might be helpful to include?</u>

Best websites to check with questions

3.   <u>After sitting with this, do you think you have a better idea of what R is all about?</u>

Yes

4.   <u>Probably the most awful thing about R are the *classes*. If you had to explain what a *class* was how would you do that?</u>

It is essentially how R organizes different items

5.   <u>Now that we have an idea of how R thinks, next week we are gonna talk a bit about how to store data. Based on what you now know, what might be good practices for recording data on a spreadsheet so that others can use them?</u>

Using clear terms

Code

```
3-4

7/10

6*89

8^7

sqrt(52)

y=334

x=42

x+y

z=x+y

x=500

x+y

z

x = 42L

is.integer(x)

my_value = "hellO"

class(my_value)

my_value = 1+3

is.numeric(my_value)

my_name = "Gabby Burnette"

is.numeric(my_name)

is.character(my_name)

a= 1.333
```

```r
class(a)

b=TRUE

class(b)

c= "my name is"

class(c)

d = Sys.Date()

class(d)

a <- 1.333

b <- TRUE

c <-  "my name is"

d <- Sys.Date() # tricky

a <- 1.333

b <- TRUE

c <-  "my name is"

d <- Sys.Date() # tricky

my_vector <- c(1,2,3,4,5)

my_new_vector <- c(6,7,8,9,10)

my_study <- c("male", "male", "female", "male", "female", "female", "female")

my_study[2]

my_study[3]

my_study[1]; my_study[4]

names(my_study)= c("one", "two", "three", "four", "five", "six", "seven")

my_study[2]
```

```r
my_study["two"]

my_study[2] == my_study["two"]

cx1980 <- c(7, 13, 8, 13, 5, 35, 9)

cx1988 <- c(9, 11, 15, 8, 9, 38, 0)

chimp <- cbind(cx1980, cx1988)

class(chimp)

chimp

chimp[1,]

chimp[,1]

chimp[3,2]

freq <- c(32,11,10,3,  38,50,25,15,  10,10,7,7,  3,30,5,8)

hair <- c("Black", "Brown", "Red", "Blond")

eyes <- c("Brown", "Blue", "Hazel", "Green")

freqmat <- matrix(freq, nr=4, nc=4, byrow=TRUE)

dimnames(freqmat)[[1]] <- hair

dimnames(freqmat)[[2]] <- eyes

freqmat

freq2 = c(1,2,2,2,  1,1,3,1,  2,2,2,2,  2,3,3,2)

season = c("spring", "summer", "fall", "winter")

size = c("small", "medium", "large", "XL")

freqmat <- matrix(freq2, nr=4, nc=4, byrow=TRUE)

dimnames(freqmat)[[1]] = season

dimnames(freqmat)[[2]]= size
```

```r
freqmat

bone <- c("humerus", "radius", "ulna", "femur", "tibia", "fibula")

size_inches <- c(14.4, 10.4, 11.1, 19.9, 16.9, 15.9)

injury <- sample(c("yes","no"),6,replace=TRUE)

sample_letter <- LETTERS[1:6]

my_sample <- data.frame(bone, size_inches, injury, sample_letter)

my_sample

View(my_sample)

my_sample$bone

num <- c(1,2,3,4,5,6)

food <- c("bread", "butter", "milk", "cheese","coffee", "tea")

quantity <-  c(1,1,3,5,7,1)

shopping <- data.frame(num, food, quantity)

a <- 5

b <- 9

c <- 7

d <- sqrt(49)

a>b

c == d

c<=b

temp = c(1,5,7,9,11,14,6,8)

3>= temp

temp[[5]] >5
```