Stat 360 Week 1 exercises

1. On which line does a get copied in the following example? -> On line 3

```
library(lobstr)
a <- c(1, 5, 3, 2)
b <- a
# c(obj_addr(a),obj_addr(b))
b[[1]] <- 10
# c(obj_addr(a),obj_addr(b))
```

2. In the following code chunk, does `x` get copied? Does `ll` get copied? Does `ee` get copied? -> only ll get copied

```
x <- rnorm(100); y <- rnorm(100)
#c(obj_addr(x),obj_addr(y))
cat(tracemem(x), "\n")
```

```
## <0x7f9d20030760>
```

```
cat(tracemem(y), "\n")
```

```
## <0x7f9d1f7ca110>
```

```
ll <- list(x=x,y=y)
cat(tracemem(ll), "\n")
```

```
## <0x7f9d24727608>
```

```
#c(obj_addr(ll))
ll$x <- 1:100
```

```
## tracemem[0x7f9d24727608 -> 0x7f9d24759ac8]: eval eval withVisible withCallingHandlers handle timing_
```

```
ee <- rlang::env(x=x,y=y)
#cat(tracemem(ee), "\n")
#c(obj_addr(ee))
ee$x <- 1:100
#c(obj_addr(x),obj_addr(y),obj_addr(ll),obj_addr(ee))
```

3. Find the size of the objects x and y in the following code chunk. Which is smaller? If instead of vectors from 1 to 10 they were vectors from 1 to 1 million, which would be smaller?

```r
x <- c(1,2,3,4,5,6,7,8,9,10)
y <- 1:10
```