CIS 325 Quiz 1

Name:

1. What is the class of the object defined by the expression x <- c(4, "a", TRUE)?

2. If I have two vectors x <- c(1,3, 5) and y <- c(3, 2, 10), what is produced by the expression rbind(x, y)?

3. Suppose I have a list defined as x <- list(2, "a", "b", TRUE). What does x[[2]] give me? Select all that apply.

4. Suppose I have a vector x <- 1:4 and a vector y <- 2. What is produced by the expression x + y?

5. Suppose I have a vector x <- c(3, 5, 1, 10, 12, 6) and I want to set all elements of this vector that are less than 6 to be equal to zero. What R code achieves this?

6. Suppose I define the following function in R

```
cube <- function(x, n) {
    x^3
}
```

What is the result of cube(3)

7. Consider the following function

```
f <- function(x) {
        g <- function(y) {
                y + z
        }
        z <- 4
        x + g(x)
}
```

Then if I run

```
z <- 10
F(3)
```

What value is returned?

8. Consider the following function

```
x <- 5
y <- if(x < 3) {
        NA
} else {
        10
}
```

What is the value of y after evaluating this expression?

9. Consider the following R function

```
h <- function(x, y = NULL, d = 3L) {
        z <- cbind(x, d)
        if(!is.null(y))
                z <- z + y
        else
                z <- z + f
```

```
    g <- x + y / z
    if(d == 3L)
        return(g)
    g <- g + 10
    g
}
```

Which symbol in the above function is a free variable?