Functions

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Write a function my_table() in R that will perform a frequency count on string data in a vector. The function should form validation checks (for NA values, and non-character input). Sample output is shown below.

```r
my_table <- function(s, na.rm=F) {
  if(!is.character(s)) {
    stop("Error, input must be a character vector")
  }
  if(sum(is.na(s)) > 0) {
    if(na.rm == T) {
      s <- s[!is.na(s)]
    } else {
      stop("Error, the input vector has NA element(s)")
    }
  }

  freq_s <- c()
  unique_s <- s[!duplicated(s)]
  for (i in 1:length(unique_s)) {
    freq_s[i] <- length(s[s==unique_s[i]])
  }
  names(freq_s) <- unique_s
  freq_s
}

# Test 1
set.seed(111)
v <- 1:10
#my_table(v)

# Test 2
set.seed(111)
v <- sample(c('M','F'),10,prob = c(.3,.7),replace = T)
v <- c(v,NA)
#my_table(v)

#Test 3
set.seed(111)
v <- sample(c('M','F'),10,prob = c(.3,.7),replace = T)
v <- c(v,NA)
my_table(v,na.rm=T)
```

```
## F M
## 9 1

#Test 4
set.seed(111)
v <- sample(c('M','F'),10,prob = c(.3,.7),replace = T)
my_table(v)

## F M
## 9 1
```