```
### MTH 210 Lab 03 ###

# define vector for storing values of p(x)/q(x) as c
c=c()

# function for calculating c
calculate_c = function(n, p){
  for (i in 0:n) {
    c[i + 1] = (factorial(n)/(factorial(n - i)factorial(i)))((1 - p)^(n -
2*i))*p^(i - 1)
  }
  # since we need max of values of p(x)/q(x) as c, we return max of vector
  return(max(c))
}

calculate_c(10, 0.3)
calculate_c(100, 0.3)
# for (n, p) = (10, 0.3), c = 2.7783
# for (n, p) = (100, 0.3), c = 48913.21
# as n increases the value of c increases, making the method expensive.
```