Partial Sums in R

Say we want to sum the first 100,000 terms of the series $\sum_{n=1}^{\infty} \frac{1}{n^2}$. The R code is:

```
sum100000 <- 0
for(n in 1:100000){
    sum100000 <- sum100000 + 1/n^2
}
```

It's helpful to look at a sequence of partial sums like the first 100,000 terms, then the first million terms, then the first ten million terms. Copy and paste the block of code above and modify it:

```
sum1000000 <- 0
for(n in 1:1000000){
    sum1000000 <- sum1000000 + 1/n^2
}
```

```
sum10000000 <- 0
for(n in 1:10000000){
    sum10000000 <- sum10000000 + 1/n^2
}
```

To view the output:
```
print(sum100000)
print(sum1000000)
print(sum10000000)
```