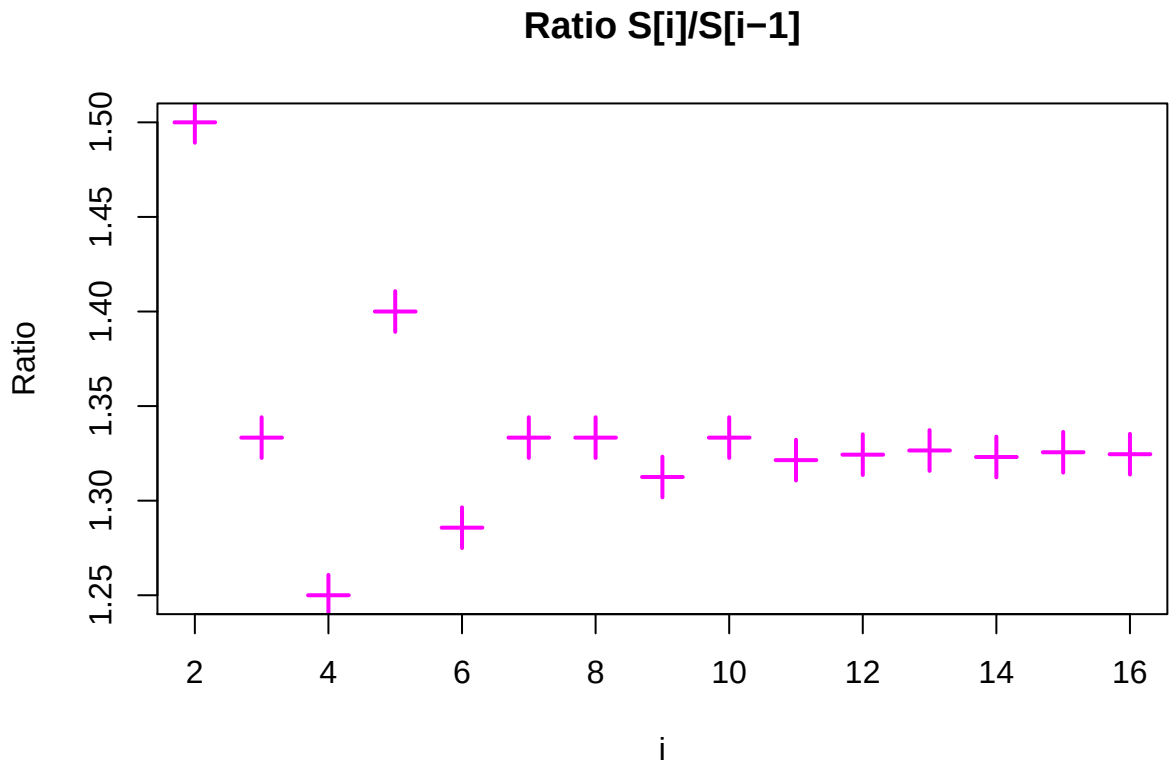
Solution (other solutions are possible and perhaps even better!)

```
sequence <- function(n) {
  p <- c(2, 3, 4)
  i = 4
  while(i <= n) {
    p <- c(p, p[i-2] + p[i-3])
    i = i +1
  }
  p[1:n]
}

n=16
seq <- sequence(n)

ratio <- seq[2:n]/seq[1:(n-1)]
cat(sprintf("%7d",11:16)); cat(sprintf("\n"))
cat(sprintf("%7.3f",ratio[10:15])); cat(sprintf("\n"))
plot(2:n,ratio,main="Ratio S[i]/S[i-1]",xlab="i", ylab="Ratio", col="magenta", pch=3, ce
```



```r
Q=matrix(c(0,0,1,1,0,1,0,1,0),3,3)
seqlist<-list(matrix(c(2,3,4),3,1))
for(i in 2:14){
  seqlist[[i]] <- Q %*% seqlist[[i-1]]
}

counter <- 0
for(i in 1:length(seqlist)){
  member <- seqlist[[i]]
  if(member[3]==seq[i+2]){
    counter <- counter+1
  }
}
cat(sprintf("Counter=%d\n",counter))
```

```
##      11      12      13      14      15      16
##   1.321   1.324   1.327   1.323   1.326   1.325
## Counter=14
```

Grading Scheme

- minimum grade:3
- display indices: +0.5
- display correct ratios 3-decimal: +0.5
- some graph: +1
- all formatting correct: +1
- correct sequence function: +2
- correct for loop for determining seqlist: +1
- checking elements / updating counter: +0.5/+0.5