1. This problem concerns the file `bookvec.R` in our handout.

(a) (35) Suppose we create a new object `z` of type "bookvec", and then execute

```
```

Name the functions in `bookvec.R` that are executed in these two actions (object creation, assignment).

(b) (35) One of the comments says, “note the recycling.” Give a specific illustration of recycling in the line associated with that comment, involving the object `b` in the examples in the handout, and explain why.

No “snow jobs,” please; be specific. Your answer must be in similar form to

```
If we execute
> x <- b[1]
then the vector (6,1,9) will be recycled to (6,1,9,6,1).
```

(c) (30) Write a function `sum.bookvec()` that will “overload” R’s generic `sum()` function. It will return the sum of counts of writes, e.g.

```
> b <- newbookvec(c(5,12,13))
> b[2] <- 8
> b[2] <- 88
> b[3] <- 168
> sum(b)
[1] 3
```

You are allowed a maximum of 5 lines of code.
Solutions:

1.a
newbookvec()
[.bookvec
[<-.bookvec

1.b If we execute
> b[2:4] <- 7

the one-element vector 1 will be recycled to (1,1,1).

1.c
sum.bookvec <- function(bv, na.rm=F) sum(bv$wrets)

(Don’t worry about the na.mr=F.)