STat 123 Lab 7

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Question 1:

```
### (1.a)
df = read.csv("lab7_data.csv")

### (1.b)
nums = as.matrix(df[,2:5])

### (1.c)
c3 = nums[,3]

### (1.d)
sc3 = 0
n = length(c3)

for (i in 1:n){
  sc3 = sc3 + c3[i]
  i = i+1
}
```

Question 2:

```
### (2.a)
c2 = nums[,2]
c4 = nums[,4]

### (2.b)
row_sums = rep(0, length(c2))
i = 0

### (2.c)
for(i in 1:length(c2)){
  row_sums[i] = c2[i]+c3[i]+c4[i]
  i = i+1
}

### (2.d)
row_sums

##  [1] 185 135 204 157 159  79 194 129 141 166 116 164
```

Question 3:

```
### (3.a)
nums = cbind(nums,rep(0, length(nums[,1])))

### (3.b)
i = 1
n = length(nums[,1])

for(i in 1:n){
nums[i,5] = nums[i,1]+nums[i,2]+nums[i,3]+nums[i,4]
  i = i+1
}

### (3.c)
nums
```

```
##        A  B  C  D
##  [1,] 46 37 58 90 231
##  [2,] 16 11 91 33 151
##  [3,] 60 75 41 88 264
##  [4,] 57 71 12 74 214
##  [5,] 74 99 15 45 233
##  [6,] 12  4  6 69  91
##  [7,] 84 88 71 35 278
##  [8,] 75  5 60 64 204
##  [9,] 49 63  1 77 190
## [10,] 31 78 76 12 197
## [11,] 85 40 37 39 201
## [12,] 86 90 28 46 250
```

Question 4:

```
## (4.a)
nums = cbind(nums,rep(0, length(nums[,1])))

## (4.b)
numscopy = nums
nums[,6] = apply(nums[,1:5], 1 ,sum)

## (4.c)
nums
```

```
##        A  B  C  D
##  [1,] 46 37 58 90 231 462
##  [2,] 16 11 91 33 151 302
##  [3,] 60 75 41 88 264 528
##  [4,] 57 71 12 74 214 428
##  [5,] 74 99 15 45 233 466
##  [6,] 12  4  6 69  91 182
##  [7,] 84 88 71 35 278 556
```

```
##  [8,] 75  5 60 64 204 408
##  [9,] 49 63  1 77 190 380
## [10,] 31 78 76 12 197 394
## [11,] 85 40 37 39 201 402
## [12,] 86 90 28 46 250 500
```

Bonus

```
## 1
nums = rbind(nums,rep(0, length(nums[1,])))

## 2
nums[13,] = apply(nums[1:12,], 2, sum)

## 3
nums
```

```
##          A   B   C   D
##  [1,]  46  37  58  90  231  462
##  [2,]  16  11  91  33  151  302
##  [3,]  60  75  41  88  264  528
##  [4,]  57  71  12  74  214  428
##  [5,]  74  99  15  45  233  466
##  [6,]  12   4   6  69   91  182
##  [7,]  84  88  71  35  278  556
##  [8,]  75   5  60  64  204  408
##  [9,]  49  63   1  77  190  380
## [10,]  31  78  76  12  197  394
## [11,]  85  40  37  39  201  402
## [12,]  86  90  28  46  250  500
## [13,] 675 661 496 672 2504 5008
```