R Notebook Results

```r
#1. Exercise 1 on Page 4
x<-c(4,2,6)
y<-c(1,0,-1);

length(x)
```

```
## [1] 3
```

```r
sum(x)
```

```
## [1] 12
```

```r
sum(x^2)
```

```
## [1] 56
```

```r
x+y
```

```
## [1] 5 2 5
```

```r
x*y
```

```
## [1]  4  0 -6
```

```r
x-2
```

```
## [1] 2 0 4
```

```r
x^2
```

```
## [1] 16  4 36
```

```r
#2. Exercise 4 on Page 4
rep(6,6)
```

```
## [1] 6 6 6 6 6 6
```

```r
rep(c(5,8),4)
```

```
## [1] 5 8 5 8 5 8 5 8
```

```r
rep(5:8, c(4,0,0,4))
```

```
## [1] 5 5 5 5 8 8 8 8
```

```r
#3. Exercise 1 on Page 5
x<- c(5,9,2,3,4,6,7,0,8,12,2,9);
x[2]
```

```
## [1] 9
```

```r
x[2:4]
```

```
## [1] 9 2 3
```

```r
x[c(2,3,6)]
```

```
## [1] 9 2 6
```

```r
x[c(1:5,10:12)]
```

```
## [1]  5  9  2  3  4 12  2  9
```

```r
x[-(10:12)]
```

```
## [1] 5 9 2 3 4 6 7 0 8
```

```r
#4. Exercise 2 on Page 6 (Summary for each day)
y<-c(33,44,29,16,25,45,33,19,54,22,21,49,11,24,56);
#Monday Sales
summary(y[1:3])
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   29.00   31.00   33.00   35.33   38.50   44.00
```

```r
#Tuesday Sales
summary(y[4:6])
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   16.00   20.50   25.00   28.67   35.00   45.00
```

```r
#Wednesday Sales
summary(y[7:9])
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   19.00   26.00   33.00   35.33   43.50   54.00
```

```r
#Thursday Sales
summary(y[10:12])
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   21.00   21.50   22.00   30.67   35.50   49.00
```

```r
#Friday Sales
summary(y[13:15])
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   11.00   17.50   24.00   30.33   40.00   56.00
```

```r
#4. Exercise 2 on Page 6 (Summary for each shop)
#Shop 1 Sales
summary(y[c(1,4,7,10,13)])
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      11      16      22      23      33      33
```

```
#Shop 2 Sales
summary(y[c(2,5,8,11,14)])

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    19.0    21.0    24.0    26.6    25.0    44.0

#Shop 3 Sales
summary(y[c(3,6,9,12,15)])

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    29.0    45.0    49.0    46.6    54.0    56.0

#5. Exercise 1 on Page 8
x=matrix(c(3,2,-1,1), nrow=2, ncol=2, byrow=TRUE)
y=matrix(c(1,4,0,0,1,-1), nrow=2, ncol=3, byrow=TRUE)
2*x

##      [,1] [,2]
## [1,]    6    4
## [2,]   -2    2

x*x

##      [,1] [,2]
## [1,]    9    4
## [2,]    1    1

x%*%x

##      [,1] [,2]
## [1,]    7    8
## [2,]   -4   -1

x%*%y

##      [,1] [,2] [,3]
## [1,]    3   14   -2
## [2,]   -1   -3   -1

t(y)

##      [,1] [,2]
## [1,]    1    0
## [2,]    4    1
## [3,]    0   -1

solve(x)

##      [,1] [,2]
## [1,]  0.2 -0.4
## [2,]  0.2  0.6
```