hw1_sol

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```
###1
###(1)
height <-   c(1.55, 1.92, 1.60, 1.75, 1.58, 1.67, 1.63, 1.82, 1.76, 1.77, 1.72, 1.85 )
###(2)
mean(height)
```

```
## [1] 1.718333
```

```
sd(height)
```

```
## [1] 0.1149572
```

```
###(3)
length(height)
```

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

```
###(4)
length(height[height<1.65])
```

```
## [1] 4
```

```
###(5)
height > 1.60 & height <1.75
```

```
##  [1] FALSE FALSE FALSE FALSE FALSE  TRUE  TRUE FALSE FALSE FALSE  TRUE FALSE
```

```
###2
tmp <- matrix(rnorm(12), 3, 4)
###(1)
sum(tmp[2,])
```

```
## [1] 0.7679537
```

```
sum(tmp[3,])
```

```
## [1] -1.550396
```

```r
###(2)
prod(tmp[,2])
```

```
## [1] 0.3205265
```

```r
prod(tmp[,4])
```

```
## [1] -0.05787596
```

```r
###(3)
dim(tmp)
```

```
## [1] 3 4
```

```r
###(4)
cat(tmp[2, tmp[2, ]< 0.2])
```

```
## -0.5985926 0.06999206 0.06269656
```

```r
###3
library(ISwR)
thuesen[thuesen$blood.glucose>10 & thuesen$short.velocity>1.5,]
```

```
##    blood.glucose short.velocity
## 1           15.3           1.76
## 13          19.0           1.95
```

```r
###4
sample(1:80,  15, replace = T)
```

```
##  [1] 10 34 73 69 70 62 50 22 61 70 23 27 72  6 33
```

```r
## or
floor(runif(15, 1, 81))
```

```
##  [1] 51 19 27 10 44 27 21 77 61 36 45 69 45 45 21
```

```r
## or
ceiling(runif(15, 0, 80))
```

```
##  [1]  5  7 32 10 17 55 59 50  5 12 59 78 16 60 71
```

```r
###5
###(1)
sample(1:3 , 10,  replace = T, prob=c(0.2, 0.3, 0.5))
```

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

```r
###(2)
result <- c()
for(i in 1:10){
    x <- runif(1)
    if(x <= 0.2) result <- c(result, 1)
    if(x >0.2 & x<= 0.5) result <- c(result, 2)
    if(x > 0.5) result <- c(result, 3)
}
result
```

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