STAT 302 Spring 2018
HW - 01

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April 10,2018

Question 1:

Code:

```
#1
1 + 2*(3 + 4)
[1] 15

#2
log(4^3 + 3^(2+1))
[1] 4.51086

#3
sqrt((4+3)*(2+1))
[1] 4.582576

#4
((1+2)/(3+4))^2
[1] 0.1836735
```

Question 2:

Code:

```
?seq
?prod
?factorial
?choose

#1
```

```
seq(-0.8, 1.6, 0.4)
[1] -0.8 -0.4  0.0  0.4  0.8  1.2  1.6

vector <- -0.8;
for (i in 1:6) {
  vector <- c(vector, -0.8 + (i * 0.4));
}
vector
[1] -0.8 -0.4  0.0  0.4  0.8  1.2  1.6

#2

prod(1:6)
[1] 720

factorial(6)
[1] 720

#3

choose(7, 4);
[1] 35

factorial(7)/(factorial(4)*factorial(7-4));
[1] 35
```

Question 3:

Code:

```
x <- c(1.8, -3.2, 5, -1, 15.3)

#1

length(x)
[1] 5

#2
sum(x)
[1] 17.9

# or cummulative sum
```

```
cumsum(x)
[1]   1.8 -1.4   3.6   2.6 17.9

#3

i = seq(1, length(x));
answer <- i[x > 1.5];
answer
[1] 1 3 5

#4

min(x)
[1] -3.2

#5

sort(x, decreasing = FALSE)
[1] -3.2 -1.0   1.8   5.0 15.3
```