

Assignment 0: Questions 6-8

Code ▾

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```
X <- matrix(c(10,3,5,1,8,2,9,7,4), nrow = 3, ncol = 3)
print(X)
```

```
      [,1] [,2] [,3]
[1,]   10    1    9
[2,]    3    8    7
[3,]    5    2    4
```

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```
Y <- matrix(c(2,8,3,5,1,12,13,4,7), nrow = 3, ncol = 3)
print(Y)
```

```
      [,1] [,2] [,3]
[1,]     2     5    13
[2,]     8     1     4
[3,]     3    12     7
```

Question 6:

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```
print(X+Y)
```

```
      [,1] [,2] [,3]
[1,]   12    6   22
[2,]   11    9   11
[3,]    8   14   11
```

Question 7:

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```
solve((t(X)%*%X))%*%t(X)%*%Y
```

```
      [,1]      [,2]      [,3]
[1,] 0.4563107  6.563107  1.6019417
[2,] 1.1941748  3.941748  0.2135922
[3,] -0.4174757 -7.174757 -0.3592233
```

Question 8:

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```
samples <- runif(10000)
percentile <- quantile(samples, probs = c(0.005,0.995))
print(percentile)
```

```
      0.5%      99.5%
0.003945898 0.995080042
```