Hw 1 R Code

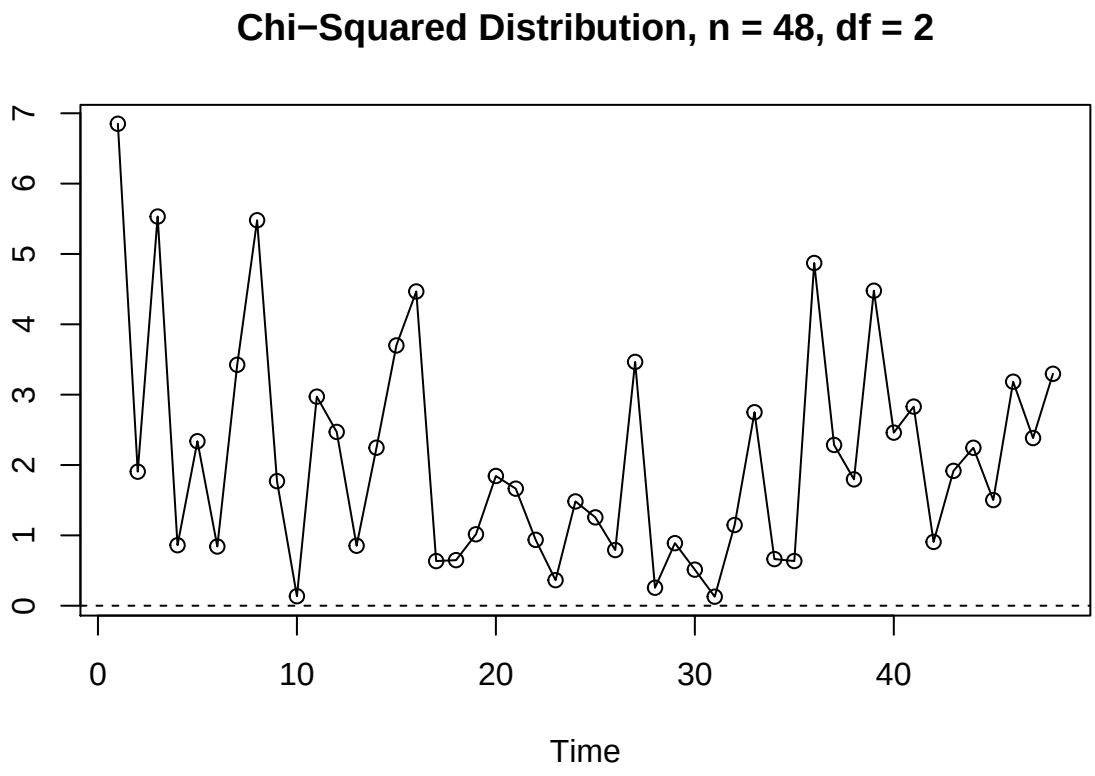
Deanna Springgay

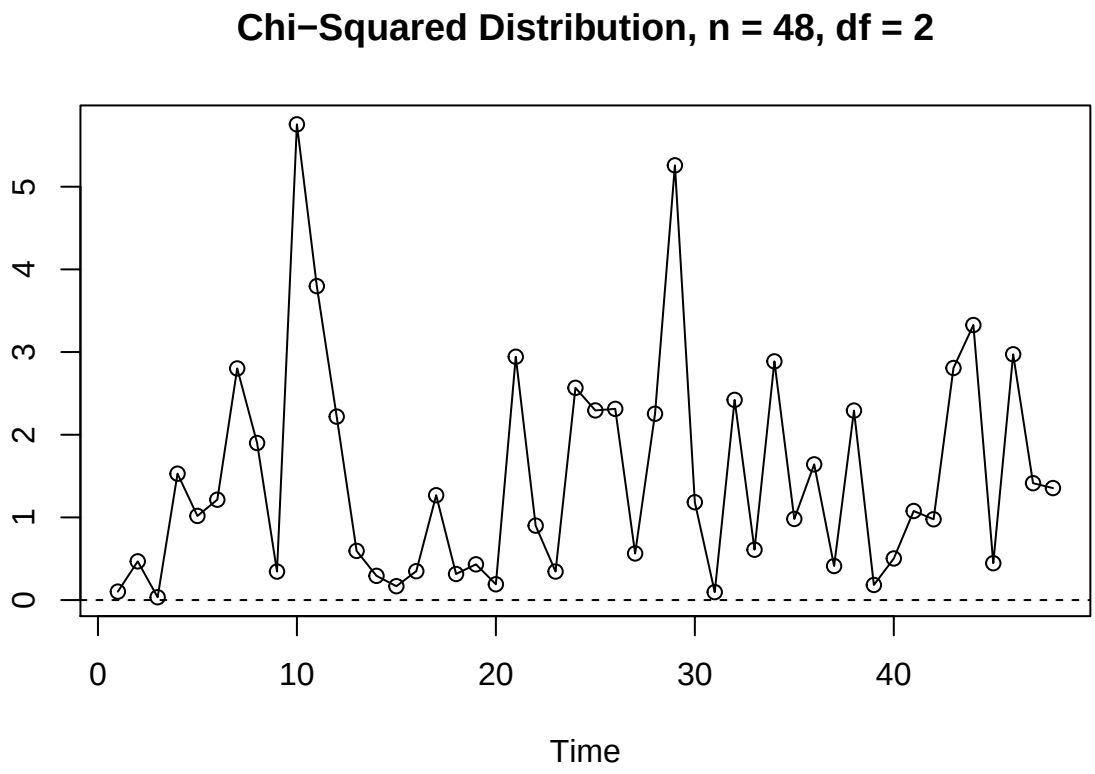
1/31/2021

1.4

Below are two plots of different simulations of the chi-squared distribution in following code block. Both appear to follow non-normal distributions but they are not random - they follow a chi-squared distribution.

```
set.seed(7)
chiSquare <- ts(rchisq(n = 48, df = 2))
plot(chiSquare, type = "o", ylab = "", main = "Chi-Squared Distribution, n = 48, df = 2")
abline(h = 0, lty = 2)
```

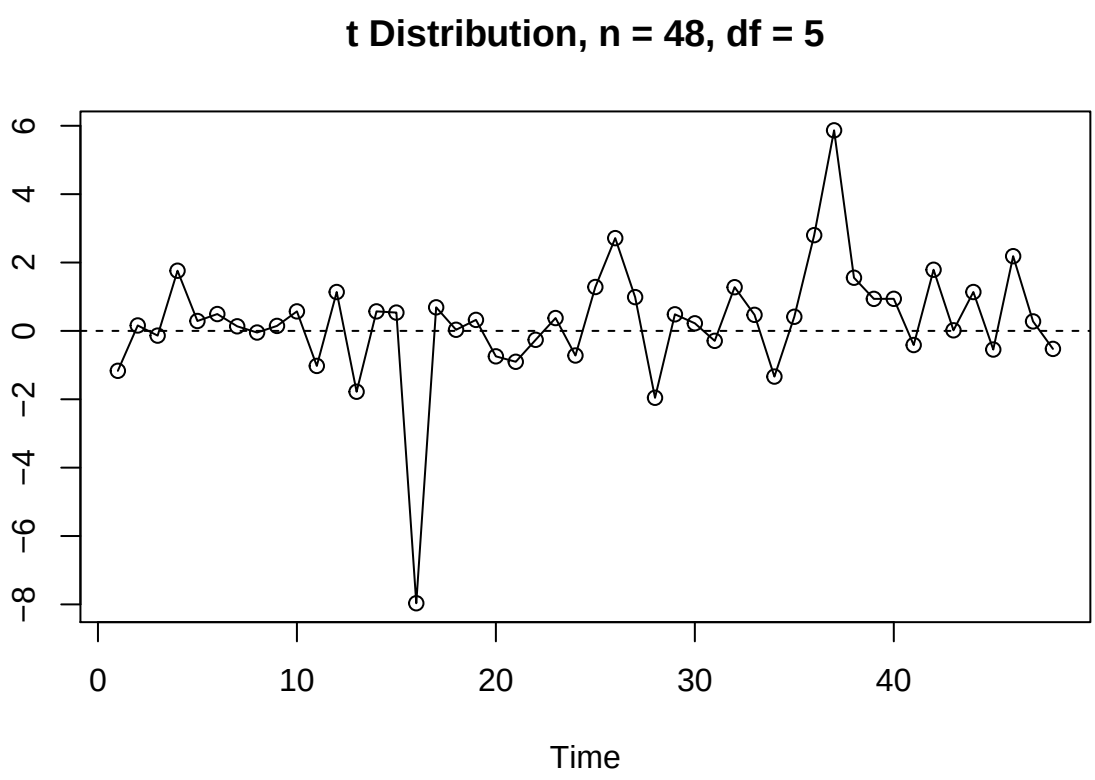


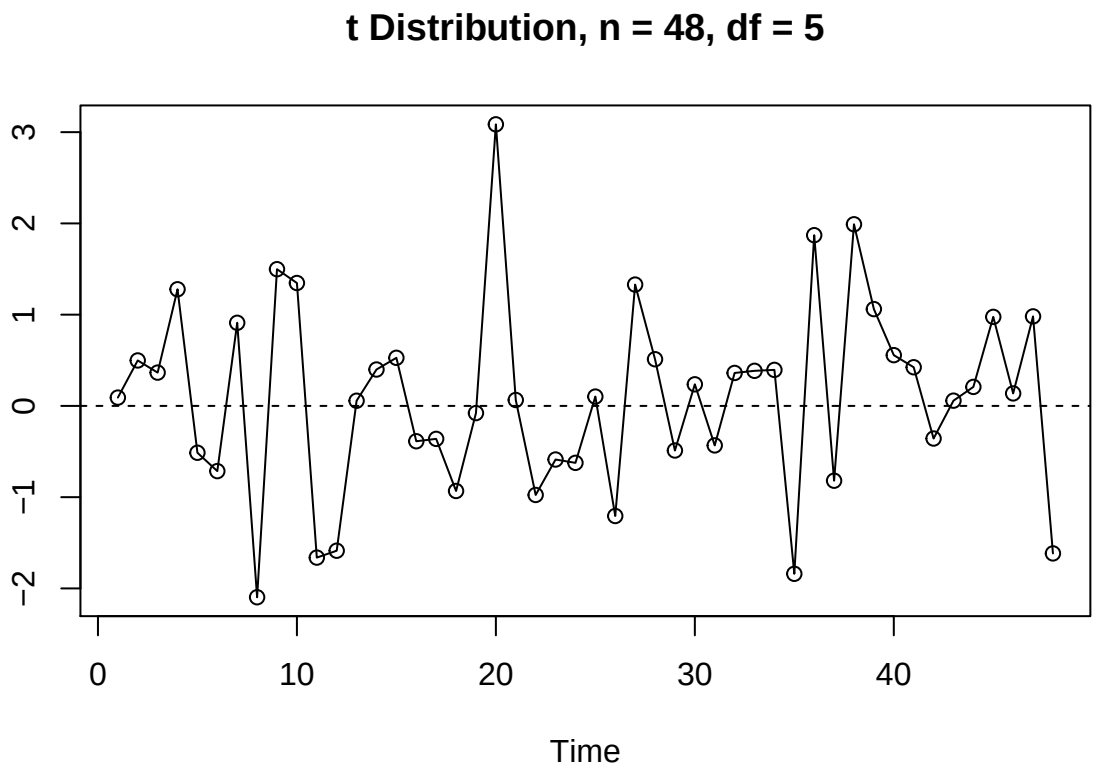


1.5

Below are two plots of different simulations of the t distribution in following code block. Both appear to follow normal and do not appear to be random.

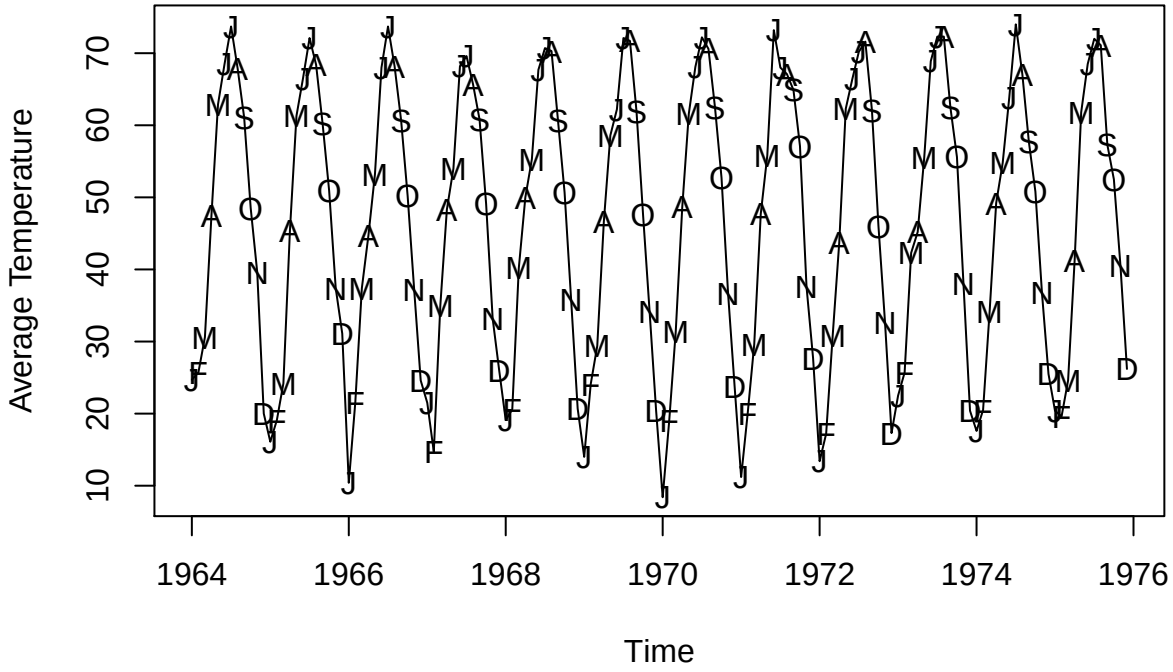
```
set.seed(17)
chiSquare <- ts(rt(n = 48, df = 5))
plot(chiSquare, type = "o", ylab = "", main = "t Distribution, n = 48, df = 5")
abline(h = 0, lty = 2)
```


t Distribution, n = 48, df = 5
6
4
2
0
−2
−4
−6
−8
0
10
20
30
40
Time



1.6

```
data("tempdub")
plot(tempdub, type = "l", ylab = "Average Temperature")
points(y = tempdub, x = time(tempdub), pch = as.vector(season(tempdub)))
```


Average Temperature
10
20
30
40
50
60
70
1964
1966
1968
1970
1972
1974
1976
Time