The simulation

Group2

2018/12/6

```
K_star #2.070334   2.186393
```

```
## [1] 2.186393
```

```
L_star #0.3116271  0.310997
```

```
## [1] 0.310997
```

```
C_star #0.512654   0.5182561
```

```
## [1] 0.5182561
```

```
y_star #0.6161707  0.6275757
```

```
## [1] 0.6275757
```

```
u_star #-5.771755  -5.748465
```

```
## [1] -5.748465
```

```
U_star #-150.0656  -149.4601
```

```
## [1] -149.4601
```

```
#library(dplyr)

k <- c()
l <- c()
c <- c()
y <- c()
u <- c()
U <- c()

for (t in 0:100) {
  K_star
  L_star
  C_star

  sigma1 <- 2
  epislon <- 1.5
  chi <- 2
  rho <- 0.04


  Ktimepath <- K_star + (-0.1161)*(0.916)^t
  rbind(k,Ktimepath) -> k

  Ltimepath <- L_star + (-0.1161)*(-0.044)*((0.916)^t)
  rbind(l, Ltimepath) -> l

  Ctimepath <- ((1-Ltimepath)^(0.75)*(Ktimepath)^(0.18))/(2.0729*(Ltimepath)^(0.18))
  rbind(c, Ctimepath) -> c
```

```
  ytimepath <- ((Ktimepath)^(0.36))*(Ltimepath)^(0.64)
  rbind(y, ytimepath) -> y

  utimepath <- 1-1/Ctimepath-4*(1/((1-Ltimepath)^0.5))
  rbind(u, utimepath) -> u

  Utimepath <- sum(((1/(1+rho))^t*utimepath))
  rbind(U, Utimepath) -> U
}
```

```
k
l
c
y
u
U
```

the Welfare change

```
sum(U)
```

```
## [1] -147.0619
```

```
k %>% plot(., xlab = "time period", ylab = "k_value", main = "Timepath of k")
l %>% plot(., xlab = "time period", ylab = "l_value",main = "Timepath of l")
c %>% plot(., xlab = "time period", ylab = "c_value",main = "Timepath of c")
y %>% plot(., xlab = "time period", ylab = "y_value", main = "Timepath of y")
u %>% plot(., xlab = "time period", ylab = "u_value", main = "Timepath of u")
```