

4)

The screenshot displays the RStudio interface with the following content:

R Console:

```
> age=c(23,23,27,27,38,41,47,49,50,52,54,54,56,57,58,58,60,61)
> fat=c(9.5,9.5,26.5,7.8,17.8,31.4,25.8,27.4,27.2,31.2,34.6,42.5,28.8,33.4,30.2,34.1,32.5,41.2,35.7)
> head(age)
[1] 23 23 27 27 38 41
> head(fat)
[1] 9.5 9.5 26.5 7.8 17.8 31.4 25.8
> min_max_norm<-function(age) { (age-min(age))/(max(age)-min(age)) }
> age_norm<-as.data.frame(lapply(age[0:11.0],min_max_norm))
> head(age_norm)
      fat
[1] 0.1 0.1 0.2 0.2 0.3 0.4
> min_max_norm<-function(fat) { (fat-min(fat))/(max(fat)-min(fat)) }
> fat_norm<-as.data.frame(lapply(fat[0:11.0],min_max_norm))
> head(fat_norm)
      fat
[1] 0.1 0.1 0.2 0.2 0.3 0.4
> mc<-mean(age)
> sc<-sd(age)
> age.z<-(age-m)/s
> mean(age.z)
[1] 1.373202e-16
> sd(age.z)
[1] 1
> mc<-mean(fat)
> sc<-sd(fat)
> fat.z<-(fat-m)/s
> mean(fat.z)
[1] -1.714242e-16
> sd(fat.z)
[1] 1
> decimascaling<=(age/100)
> decimascaling
[1] 0.23 0.23 0.27 0.27 0.38 0.41 0.47 0.49 0.50 0.52 0.54 0.54 0.56 0.57 0.58 0.58 0.60 0.61
> decimascaling<=(fat/100)
> decimascaling
[1] 0.095 0.265 0.078 0.178 0.314 0.258 0.274 0.272 0.312 0.346 0.425 0.288 0.334 0.302 0.341 0.325 0.412
> }
```

R Viewer:

```
age_norm<-as.data.frame(lapply(age[0:11.0],min_max_norm))
fat_norm<-as.data.frame(lapply(fat[0:11.0],min_max_norm))
mc<-mean(age)
sc<-sd(age)
age.z<-(age-m)/s
mean(age.z)
sd(age.z)
mc<-mean(fat)
sc<-sd(fat)
fat.z<-(fat-m)/s
mean(fat.z)
sd(fat.z)
decimascaling<=(age/100)
decimascaling
decimascaling<=(fat/100)
decimascaling
```