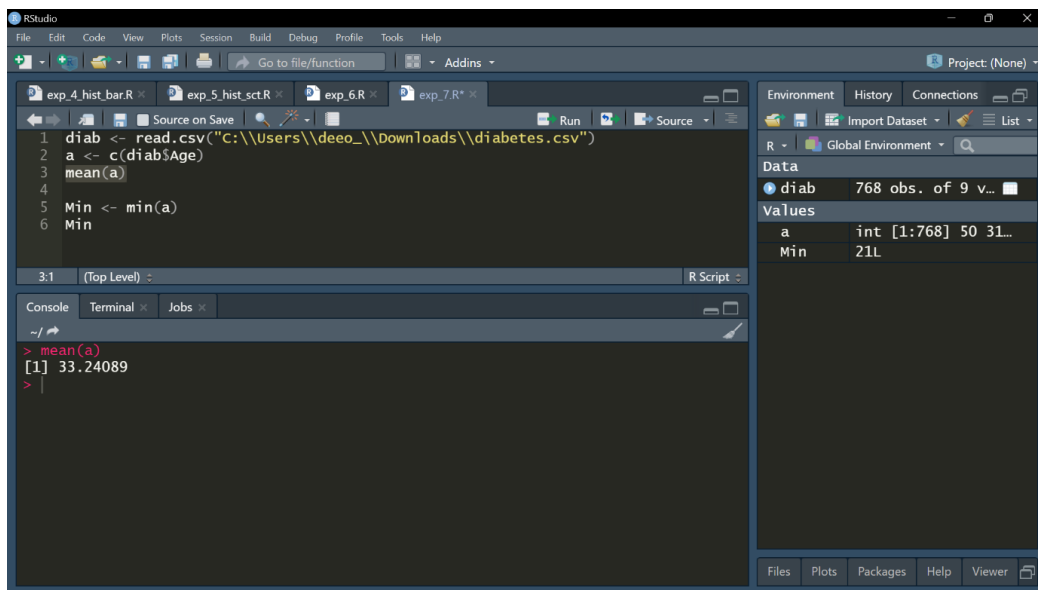**EX.NO: 07**

PERFORM CORRELATION ANALYSIS AND NORMALIZATION USING R-TOOL

- **NORMALIZATION:**

    i.   **MEAN NORMALIZATION**
    ii. **MINIMUM NORMALIZATION**
    iii. **MAXIMUM NORMALIZATION**
    iv. **MINMAX NORMALIZATION**
    v.   **DECIMAL SCALING NORMALIZATION**

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins ▾ Project: (None) ▾

exp_4_hist_bar.R exp_5_hist_sct.R exp_6.R exp_7.R*

Run Source ▾
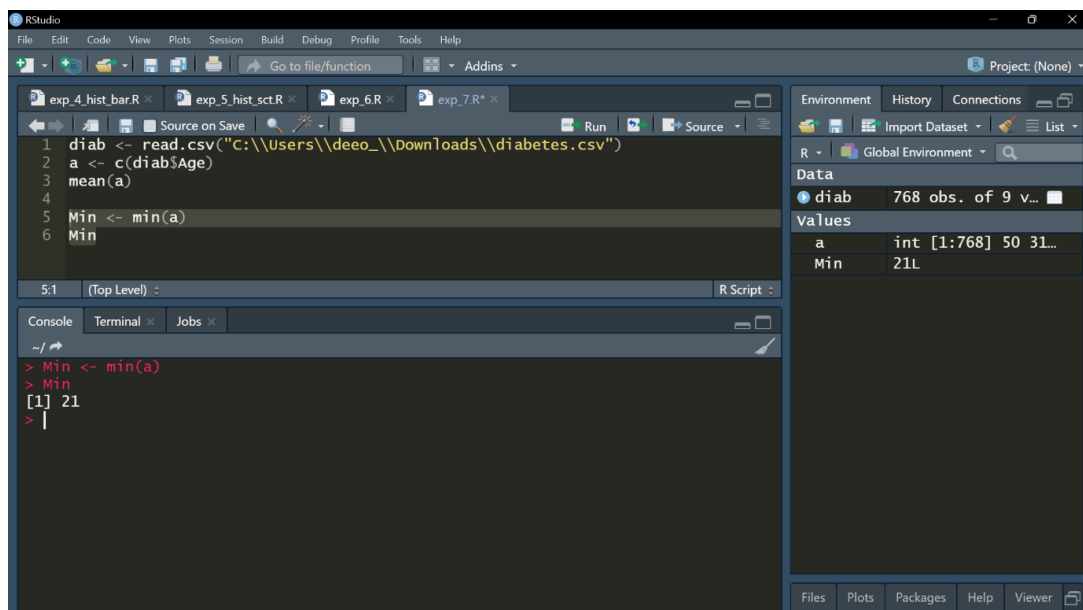
```
 2    a <- c(diab$Age)
 3    mean(a)
 4
 5    Min <- min(a)
 6    Min
 7
 8    Max <- max(a)
 9    Max
```

8:1 (Top Level) R Script

Environment History Connections

Import Dataset ▾ List ▾

R ▾ Global Environment ▾

Data
diab   768 obs. of 9 v...

Values
a   int [1:768] 50 31...
Max   81L
Min   21L

Console Terminal Jobs

```
> Max <- max(a)
> Max
[1] 81
>
```

Files Plots Packages Help Viewer

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins ▾ Project: (None) ▾

exp_4_hist_bar.R exp_5_hist_sct.R exp_6.R exp_7.R*

Run Source ▾

```
 6    Min
 7
 8    Max <- max(a)
 9    Max
10
11    |
12    MinMax <- ((a-Min)/(Max-Min))
13    MinMax
```

11:1 (Top Level) R Script

Environment History Connections

Import Dataset ▾ List ▾

R ▾ Global Environment ▾

Data
diab   768 obs. of 9 v...

Values
a   int [1:768] 50 31...
Max   81L
Min   21L
MinMax   num [1:768] 0.483...

Console Terminal Jobs

```
> MinMax <- ((a-Min)/(Max-Min))
> MinMax
  [1] 0.48333333 0.16666667 0.18333333 0.00000000 0.20000000 0.15000000
  [7] 0.08333333 0.13333333 0.53333333 0.55000000 0.15000000 0.21666667
 [13] 0.60000000 0.63333333 0.50000000 0.18333333 0.16666667 0.16666667
 [19] 0.20000000 0.18333333 0.10000000 0.48333333 0.33333333 0.13333333
 [25] 0.50000000 0.33333333 0.36666667 0.01666667 0.60000000 0.28333333
 [31] 0.65000000 0.11666667 0.01666667 0.11666667 0.40000000 0.20000000
 [37] 0.23333333 0.41666667 0.10000000 0.58333333 0.08333333 0.26666667
 [43] 0.45000000 0.55000000 0.31666667 0.06666667 0.13333333 0.01666667
 [49] 0.16666667 0.05000000 0.01666667 0.08333333 0.15000000 0.61666667
 [55] 0.35000000 0.00000000 0.33333333 0.16666667 0.38333333 0.01666667
 [61] 0.00000000 0.30000000 0.25000000 0.05000000 0.35000000 0.18333333
 [67] 0.28333333 0.55000000 0.06666667 0.10000000 0.11666667 0.08333333
 [73] 0.35000000 0.03333333 0.01666667 0.01666667 0.33333333 0.10000000
```

Files Plots Packages Help Viewer

File   Edit   Code   View   Plots   Session   Build   Debug   Profile   Tools   Help

Go to file/function   Addins ▾   Project: (None) ▾

exp_4_hist_bar.R ×   exp_5_hist_sct.R ×   exp_6.R ×   exp_7.R* ×

Source on Save   Run   Source ▾

```
10
11
12    MinMax <- ((a-Min)/(Max-Min))
13    MinMax
14
15    #decimal scaling
16    ds <- (a/100)
17    ds
```

16:1   (Top Level) ≑   R Script ≑

Console   Terminal ×   Jobs ×

~/ →

```
> ds <- (a/100)
> ds
  [1] 0.50 0.31 0.32 0.21 0.33 0.30 0.26 0.29 0.53 0.54 0.30 0.34 0.57 0.59
 [15] 0.51 0.32 0.31 0.31 0.33 0.32 0.27 0.50 0.41 0.29 0.51 0.41 0.43 0.22
 [29] 0.57 0.38 0.60 0.28 0.22 0.28 0.45 0.33 0.35 0.46 0.27 0.56 0.26 0.37
 [43] 0.48 0.54 0.40 0.25 0.29 0.22 0.31 0.24 0.22 0.26 0.30 0.58 0.42 0.21
 [57] 0.41 0.31 0.44 0.22 0.21 0.39 0.36 0.24 0.42 0.32 0.38 0.54 0.25 0.27
 [71] 0.28 0.26 0.42 0.23 0.22 0.22 0.41 0.27 0.26 0.24 0.22 0.22 0.36 0.22
 [85] 0.37 0.27 0.45 0.26 0.43 0.24 0.21 0.34 0.42 0.60 0.21 0.40 0.24 0.22
 [99] 0.23 0.31 0.33 0.22 0.21 0.24 0.27 0.21 0.27 0.37 0.25 0.24 0.24 0.46
[113] 0.23 0.25 0.39 0.61 0.38 0.25 0.22 0.21 0.25 0.24 0.23 0.69 0.23 0.26
[127] 0.30 0.23 0.40 0.62 0.33 0.33 0.30 0.39 0.26 0.31 0.21 0.22 0.29 0.28
[141] 0.55 0.38 0.22 0.42 0.23 0.21 0.41 0.34 0.65 0.22 0.24 0.37 0.42 0.23
[155] 0.43 0.36 0.21 0.23 0.22 0.47 0.36 0.45 0.27 0.21 0.32 0.41 0.22 0.34
[169] 0.29 0.29 0.36 0.29 0.25 0.23 0.33 0.36 0.42 0.26 0.47 0.37 0.32 0.23
```

Environment   History   Connections

Import Dataset ▾   List ▾

R ▾   Global Environment ▾

Data

diab   768 obs. of 9 v... ▦

Values

a   int [1:768] 50 31...
ds   num [1:768] 0.5 0...
Max   81L
Min   21L
MinMax   num [1:768] 0.483...

Files   Plots   Packages   Help   Viewer