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BASICS OF *R*

EXERCISES 1.1

1. In a class of 50 students of computing, 23 are female and 27 are male. The results of their first year Java programming examination are given as follows.

   Females: 57, 59, 78, 79, 60, 65, 68, 71, 75, 48, 51, 55, 56, 41, 43, 44, 75, 78, 80, 81, 83, 83, 85

   Males: 48, 49, 49, 30, 30, 31, 32, 35, 37, 41, 86, 42, 51, 53, 56, 42, 44, 50, 51, 65, 67, 51, 56, 58, 64, 64, 75

   a) Read these data into *R* by storing them in the following ways:

   - As two vectors, one for the females and one for the males;

     ```
     marksfemales <- c(57, 59, 78, 79, 60, 65, 68, 71, 75, 48,
      51, 55, 56, 41, 43, 44, 75, 78, 80, 81, 83, 83, 85)
     marksmale <-c(48, 49, 49, 30, 30, 31, 32,  35, 37, 41, 86,
      42, 51, 53, 56, 42, 44, 50, 51, 65, 67, 51, 56, 58, 64, 64, 75)
     ```

   - As one vector, with a factor vector designating the gender.

     ```
     marks <- c(57, 59, 78, 79, 60, 65, 68, 71, 75, 48, 51, 55,
      56, 41, 43, 44, 75, 78, 80, 81, 83, 83, 85, 48, 49, 49, 30,
      30, 31, 32, 35, 37, 41, 86, 42, 51, 53, 56, 42, 44, 50, 51,
      65, 67, 51, 56, 58, 64, 64, 75)
     ```

     reads the data into a vector designated *marks*.

     ```
     gendermarks <- rep(c("Female", "Male"), c(23, 27))
     ```

     creates a vector containing *Female* repeated 23 times, followed by *Male* repeated 27 times.

     Should you wish to use numbers, write

```
gender <- rep(1:2, c(23, 27))
```

which creates a vector containing 1 repeated 23 times, and 2 repeated 27 times.

b) If it was discovered that the mark for the $34th$ student was entered incorrectly and should have been 46 instead of 86, use an appropriate editing procedure to change this.

With one vector use

```
marks[34] <- 46
```

With separate vectors for females and males

```
marksmale[11] <- 46
```

c) Save the workspace in a file for access later .

Click on *File/Save Workspace* and store in an appropriate file.