

20BCE1025_Abhishek_N_N_Lab-Ex-3-Working with matrices in R

20BCE1025_Abhishek_N_N

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1. Represent the height in cm information of a team of 12 basketball players as a matrix of dimension 4x3 in row major form.

```
heights <- c(150, 165, 133, 155, 177, 187, 165, 190, 173, 149, 134, 157)
m <- matrix(heights, nrow = 4, ncol = 3, byrow = TRUE)
m
```

```
##      [,1] [,2] [,3]
## [1,]  150  165  133
## [2,]  155  177  187
## [3,]  165  190  173
## [4,]  149  134  157
```

2. Access the height at row 3 and column 2.

```
m[3,2]
```

```
## [1] 190
```

3. Display all the heights in row 2.

```
m[2,]
```

```
## [1] 155 177 187
```

4. Display all the heights in column 3.

```
m[,3]
```

```
## [1] 133 187 173 157
```

5. Extract the heights in all rows but only in column 1 and 3.

```
m[,c(1,3)]
```

```
##      [,1] [,2]
## [1,] 150 133
## [2,] 155 187
## [3,] 165 173
## [4,] 149 157
```

6. Find the transpose of the matrix.

```
t(m)
```

```
##      [,1] [,2] [,3] [,4]
## [1,] 150 155 165 149
## [2,] 165 177 190 134
## [3,] 133 187 173 157
```

7. Four more players got added to the team. Update the matrix to reflect the heights of the players.

```
m<-cbind(m,c(150, 151, 152, 153))
m
```

```
##      [,1] [,2] [,3] [,4]
## [1,] 150 165 133 150
## [2,] 155 177 187 151
## [3,] 165 190 173 152
## [4,] 149 134 157 153
```

8. Append three more players' height in the matrix.

```
m<-rbind(m,c(160, 161, 162))
```

```
## Warning in rbind(m, c(160, 161, 162)): number of columns of result is not a
## multiple of vector length (arg 2)
```

```
m
```

```
##      [,1] [,2] [,3] [,4]
## [1,] 150 165 133 150
## [2,] 155 177 187 151
## [3,] 165 190 173 152
## [4,] 149 134 157 153
## [5,] 160 161 162 160
```