

Lecture 17 - R Software

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Converting from One Object form to Another

- Convert a Matrix to a Data Frame

We can convert a matrix into a data frame using the `as.data.frame()` command.

```
> yr.matrix
```

	Qtr1	Qtr2	Qtr3	Qtr4
row1	"Jan"	"Apr"	"Jul"	"Oct"
row2	"Feb"	"May"	"Aug"	"Nov"
row3	"Mar"	"Jun"	"Sep"	"Dec"

```
> yr.frame = as.data.frame(yr.matrix)
```

```
> yr.frame
```

	Qtr1	Qtr2	Qtr3	Qtr4
row1	Jan	Apr	Jul	Oct
row2	Feb	May	Aug	Nov
row3	Mar	Jun	Sep	Dec

- Convert a Data Frame into a Matrix

Similarly, we can switch a data frame into a matrix using the `as.matrix()` command.

```
> grass2
```

	mow	unmow
1	12	8
2	15	9
3	17	7
4	11	9
5	15	NA

```
> grass2.mat =as.matrix(grass2)
```

```
> grass2.mat
```

	mow	unmow
[1,]	12	8
[2,]	15	9
[3,]	17	7
[4,]	11	9
[5,]	15	NA

- Convert a Data Frame into a List

Suppose, the data be given in matrix form as:

```
>mf
      Length  Speed  Algae  NO3  BOD
1         20     12    40    2.25 200
2         21     14    45    2.15 180
3         22     12    45    1.75 135
4         23     16    80    1.95 120
⋮         ⋮      ⋮      ⋮      ⋮      ⋮
25        22     15    75    1.75  95
```

We can make a list object from a data frame by using the `as.list()` command.

```
> frame.list = as.list(mf)
> frame.list
$len
[1] 20 21 22 23 21 20 19 16 15 14 21 21 21 20 19 18 17 19 21
[20] 13 16 25 24 23 22
$sp
[1] 12 14 12 16 20 21 17 14 16 21 21 26 11 9 9 11 17 15 19 21
[21] 22 9 11 16 15
```