R Notebook

http://rmarkdown.rstudio.com/r_notebooks.html

This is an R Markdown Notebook. When you execute code within the notebook, the results appear beneath the code.

Try executing this chunk by clicking the *Run* button within the chunk or by placing your cursor inside it and pressing *Ctrl+Shift+Enter*.

```
d1 <- 2+3
d1
```

```
## [1] 5
```

```
array_1 <-array(1:24, dim=c(3,4,2))
array_1
```

```
## , , 1
##
##      [,1] [,2] [,3] [,4]
## [1,]    1    4    7   10
## [2,]    2    5    8   11
## [3,]    3    6    9   12
##
## , , 2
##
##      [,1] [,2] [,3] [,4]
## [1,]   13   16   19   22
## [2,]   14   17   20   23
## [3,]   15   18   21   24
```

Creating our very First Array

```
?array()

array_1 <-array(1:24, dim=c(3,4,3))
array_1
```

```
## , , 1
##
##      [,1] [,2] [,3] [,4]
## [1,]    1    4    7   10
## [2,]    2    5    8   11
## [3,]    3    6    9   12
##
## , , 2
##
##      [,1] [,2] [,3] [,4]
## [1,]   13   16   19   22
## [2,]   14   17   20   23
## [3,]   15   18   21   24
##
## , , 3
##
##      [,1] [,2] [,3] [,4]
```

```
## [1,]    1    4    7   10
## [2,]    2    5    8   11
## [3,]    3    6    9   12
```

DIM == "Integer vector of length one or more giving the maximal indices in each dimension." Above we have ROWS or INDEX == 3 , COLUMNS == 4 and DIMENSIONS == 3 VALUES or OBSERVATIONS are filled in COLUMNS FIRST - ROWS NEXT

```
is.array(array_1)
```

```
## [1] TRUE
```

```
array_2 <-array(1:24, dim=c(3,4))
array_2
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    1    4    7   10
## [2,]    2    5    8   11
## [3,]    3    6    9   12
```

```
typeof(array_2)
```

```
## [1] "integer"
```

```
typeof(array_1)
```

```
## [1] "integer"
```

Both ARRAYS Stored as INTEGERS in Memory

WHAT ARE - VECTORS — One Dimension Arrays which can hold - NUMERIC , CHARACTER or LOGICAL DATA
Vectors can be of THREE Types or MODES - which means the DATA TYPE they can hold.
#
A VECTOR is created using the - COMBINE Function()
#
Lets see an example of each type below -

```
num_vector <- c(22,22,33,33,44)
num_vector
```

```
## [1] 22 22 33 33 44
```

```
char_vector <- c("x","d","c","f")
char_vector
```

```
## [1] "x" "d" "c" "f"
```

```
logical_vector <- c(TRUE,FALSE,TRUE,FALSE,FALSE,FALSE)
logical_vector
```

```
## [1]  TRUE FALSE  TRUE FALSE FALSE FALSE
```

SCALARS - One Element Vectors - useful for hlding CONSTANT values

```
a1 <- "FINANCE"
b1 <- "MARKETING"
c1 <- "SALES"
d1 <- 3.1416
a1
```

```
## [1] "FINANCE"
```

```
b1
```

```
## [1] "MARKETING"
```

```
c1
```

```
## [1] "SALES"
```

```
d1
```

```
## [1] 3.1416
```

sessionInfo()

R version 3.3.2 (2016-10-31) Platform: x86_64-pc-linux-gnu (64-bit) Running under: Ubuntu 16.04.1 LTS

locale: [1] LC_CTYPE=en_IN.UTF-8 LC_NUMERIC=C LC_TIME=en_IN.UTF-8 LC_COLLATE=en_IN.UTF-8
[5] LC_MONETARY=en_IN.UTF-8 LC_MESSAGES=en_IN.UTF-8 LC_PAPER=en_IN.UTF-8 LC_NAME=C
[9] LC_ADDRESS=C LC_TELEPHONE=C LC_MEASUREMENT=en_IN.UTF-8 LC_IDENTIFICATION=C

attached base packages: [1] stats graphics grDevices utils datasets methods base

loaded via a namespace (and not attached): [1] backports_1.0.4 magrittr_1.5 rprojroot_1.1 htmltools_0.3.5 tools_3.3.2 base64enc_0.1-3 yaml_2.1.14
[8] Rcpp_0.12.8 stringi_1.1.2 rmarkdown_1.3 knitr_1.15.1 jsonlite_1.1 stringr_1.1.0 digest_0.6.10
[15] evaluate_0.10

EOF - R_1.Rmd