

# R for Beginners - R for Marketing Code File-1

This R code book written by [Rohit Dhankar](https://github.com/RohitDhankar) . GitHub - <https://github.com/RohitDhankar>

Code and Data > <https://github.com/RohitDhankar/R-Beginners-Online-Virtual-Learning-Session>

Good practice to keep track of current Working Directory , list all Objects in R ENVIRONMENT - specially so when committing changes to Git or any other version control Remote directory.

## R for Marketing

```
# Simulating own Synthetic Data for analysis by Marketing Function

# Set Seed -- ensure reproducible results

set.seed(123)

# Presume a retail stores chain called - Mkt , having 200 Stores globally
# Each Country has a store within their capital city
# Do consider this code is NOT DRY :)

ms_ids <- 18801:19001 # Range to create Dummy Mkt Store ID's

# Scalar Vector Constants - tweak to change DF Dimensions
aa<-1500
bb<-1400
cc<-1100
dd<-2200
ee<-4200
ff<-2500
gg<-1400
hh<-1500
ii<-2200
jj<-2000

# Mkt Stores ID's == ms_ids

ms_cntry1 <- c(rep("IND",aa))
ms_cntry2 <- c(rep("AUS",bb))
ms_cntry3 <- c(rep("NZ",cc))
ms_cntry4 <- c(rep("RUS",dd))
ms_cntry5 <- c(rep("USA",ee))
ms_cntry6 <- c(rep("MEX",ff))
ms_cntry7 <- c(rep("CAN",gg))
ms_cntry8 <- c(rep("BRZ",hh))
ms_cntry9 <- c(rep("SPN",ii))
ms_cntry10 <- c(rep("FRA",jj))
# ms_cntry11 <- c(rep("GER",kk))
# ms_cntry12 <- c(rep("CHN",ll))

#
```

```

ms_cty1 <- c(rep("CTY_1",aa))
ms_cty2 <- c(rep("CTY_2",bb))
ms_cty3 <- c(rep("CTY_3",cc))
ms_cty4 <- c(rep("CTY_4",dd))
ms_cty5 <- c(rep("CTY_5",ee))
ms_cty6 <- c(rep("CTY_6",ff))
ms_cty7 <- c(rep("CTY_7",gg))
ms_cty8 <- c(rep("CTY_8",hh))
ms_cty9 <- c(rep("CTY_9",ii))
ms_cty10 <- c(rep("CTY_10",jj))
# ms_cty11 <- c(rep("CTY_11",kk))
# ms_cty12 <- c(rep("CTY_12",ll))
#
# Using - runif() # runif generates random deviates.
psale_1 <- runif(aa,min=100,max=120) ## How many values Required the - N == aa
psale_2 <- runif(bb,min=15,max=20) ##
psale_3 <- runif(cc,min=25,max=30) ##
psale_4 <- runif(dd,min=100,max=320) ##
psale_5 <- runif(ee,min=5,max=140) ##
psale_6 <- runif(ff,min=25,max=350) ##
psale_7 <- runif(gg,min=100,max=620) ##
psale_8 <- runif(hh,min=5,max=80) ##
psale_9 <- runif(ii,min=25,max=90) ##
psale_10 <- runif(jj,min=100,max=620) ##
# psale_11 <- runif(kk,min=5,max=43) ##
# psale_12 <- runif(ll,min=25,max=39) ##
#
# Using - runif() # runif generates random deviates.
pcost_1 <- runif(aa,min=111.49,max=120.56) ## How many values Required the - N == 5
pcost_2 <- runif(bb,min=65.05,max=100.42) ## Random MINIMUM Value == 65.05
pcost_3 <- runif(cc,min=500.44,max=3000.78) ## Random MAXIMUM Value == 3000.78
#
pcost_4 <- runif(dd,min=300.44,max=3000.78) ##
pcost_5 <- runif(ee,min=400.44,max=3000.78) ##
pcost_6 <- runif(ff,min=900.44,max=3000.78) ##
#
pcost_7 <- runif(gg,min=1100.44,max=37000.78) ##
pcost_8 <- runif(hh,min=1400.44,max=32000.78) ##
pcost_9 <- runif(ii,min=1700.44,max=33000.78) ##
#
pcost_10 <- runif(jj,min=5500.44,max=30000.78) ##
# pcost_11 <- runif(kk,min=3500.44,max=45000.78) ##
# pcost_12 <- runif(ll,min=9900.44,max=13000.78) ##
#
# Data Frame from NUMERIC and CHARACTER VECTORS
#
# p_sale_count == PRODUCT Sale Count - How many Sold !
#
mdf <- data.frame(cty_name= c(ms_cty1,ms_cty2,ms_cty3,ms_cty4,ms_cty5,ms_cty6,ms_cty7,ms_cty8,ms_cty9,ms_cty10,ms_cty11,ms_cty12),
                  country_name= c(ms_cntry1,ms_cntry2,ms_cntry3,ms_cntry4,ms_cntry5,ms_cntry6,ms_cntry7,ms_cntry8,ms_cntry9,ms_cntry10,ms_cntry11,ms_cntry12),
                  p_sale_count= c(psale_1,psale_2,psale_3,psale_4,psale_5,psale_6,psale_7,psale_8,psale_9,psale_10,psale_11,psale_12),
                  p_sale_cost= c(pcost_1,pcost_2,pcost_3,pcost_4,pcost_5,pcost_6,pcost_7,pcost_8,pcost_9,pcost_10,pcost_11,pcost_12))

```

```

#
head(mdf)

##   cty_name country_name p_sale_count p_sale_cost
## 1   CTY_1          IND    105.7516    120.4795
## 2   CTY_1          IND    115.7661    114.2312
## 3   CTY_1          IND    108.1795    115.4242
## 4   CTY_1          IND    117.6603    112.9459
## 5   CTY_1          IND    118.8093    118.9549
## 6   CTY_1          IND    100.9111    113.3774

#
summary(mdf) # Summary of DF

##   cty_name      country_name  p_sale_count      p_sale_cost
## CTY_5 :4200    USA      :4200    Min.   :  5.013    Min.   :  65.13
## CTY_6 :2500    MEX      :2500    1st Qu.: 40.664    1st Qu.: 1048.47
## CTY_4 :2200    RUS      :2200    Median :101.825    Median : 2235.46
## CTY_9 :2200    SPN      :2200    Mean   :142.236    Mean   : 7080.53
## CTY_10:2000    FRA      :2000    3rd Qu.:201.950    3rd Qu.:11283.43
## CTY_1 :1500    BRZ      :1500    Max.   :619.726    Max.   :36939.36
## (Other):5400    (Other):5400

#
str(mdf) # Structure of DF

## 'data.frame':    20000 obs. of  4 variables:
## $ cty_name      : Factor w/ 10 levels "CTY_1","CTY_10",...: 1 1 1 1 1 1 1 1 1 1 ...
## $ country_name: Factor w/ 10 levels "AUS","BRZ","CAN",...: 5 5 5 5 5 5 5 5 5 5 ...
## $ p_sale_count: num  106 116 108 118 119 ...
## $ p_sale_cost : num  120 114 115 113 119 ...

# > mdf2<-mdf$p_sale_count
# > mdf3<-mdf$p_sale_cost
# > mdf4<-mdf$p_sale_count*mdf$p_sale_cost
# >
# > View(mdf2)
# > mdf2<-mdf$p_sale_count[2,]
# Error in mdf$p_sale_count[2, ] : incorrect number of dimensions
# > mdf2<-mdf$p_sale_count[2]
# > mdf2
# [1] 115.7661
# > mdf2<-mdf$p_sale_count[2:5]
# > mdf2
# [1] 115.7661 108.1795 117.6603 118.8093
# > mdf3<-mdf$p_sale_cost[2:5]
# > mdf3
# [1] 114.2312 115.4242 112.9459 118.9549
# > mdf4<- mdf2*mdf3
# > mdf4
# [1] 13224.10 12486.54 13289.26 14132.95
# > 115*114
# [1] 13110

```

## Speeding up Code

Efficiency Tradeoff —

Will we Multiply TWO Vectors

OR

Will we Multiply TWO DF Column Vectors

There are