START

NEW SCRIPT - Ctrl+shift+N

CODING - Ctrl+R

# 5. [NCHAR]

> name<-"Bucky\_Roberts"

> nchar(name)

[1] 13

# 4. [TRUE&FALSE]

]

> a<-32

> b<-"bucky"

> class(a)

[1] "numeric"

> class(b)

[1] "character"

# 1. [SIMPLE CALCULATION]

> 12+8

[1] 20

> 12-64

[1] -52

> (12-64)\*7

[1] -364

# 2. [VARIABLES]

x=32

> x+8

[1] 40

> bucky<-tuna<-20

> bucky

[1] 20

> tuna

[1] 20

# 6. [Date]

> tuna<-as.Date("2015-01-05")

> ham<-("2015-01-05")

> class(tuna)

[1] "Date"

> class(ham)

[1] "character"

# 3. [REMOVE]

> assign("ham",71)

> ham+20

[1] 91

> rm(ham)

> ham+20

Error: object 'ham' not found

# 7. [LOGIC OPERATOR]

> 5==7

[1] FALSE

> 12!=14

[1] TRUE

> 45<87

[1] TRUE

> 7<=7

[1] TRUE

> "bucky"=="bucky"

[1] TRUE

> "bucky"=="ham"

[1] FALSE

# 9. [VECTOR 2.]

> slammer<-1:5

> slammer

[1] 1 2 3 4 5

> bacon<--3:-12

> bacon

[1] -3 -4 -5 -6 -7 -8 -9 -10 -11 -12

> length(slammer)

[1] 5

# 8. [VECTOR 1.]

> b1<-c(1,2,3,4,5)

> b2<-c("bucky","hoss","emma")

> b1

[1] 1 2 3 4 5

> b2

[1] "bucky" "hoss" "emma"

> b1\*2

[1] 2 4 6 8 10

# 10. [APPLIED VECTOR ]

> a<-1:5

> b<-1:3

> a+b

[1] 2 4 6 5 7

Warning message:

In a + b : longer object length is not a multiple of shorter object length

> c<-1:10

> c<5

[1] TRUE TRUE TRUE TRUE FALSE FALSE FALSE FALSE FALSE FALSE

# 11. [LOGIC OPERATION FUNCTION]

> a<-1:10

> any(a<5)

[1] TRUE

> all(a<5)

[1] FALSE

> hoss<-50:60

> hoss

[1] 50 51 52 53 54 55 56 57 58 59 60

> hoss[3]

[1] 52

> hoss[1:5]

[1] 50 51 52 53 54

# 12. [DATA FRAME]

> id<-1:4

> age<-c(18,13,66,65)

> name<-c("bucky","tom","merry","eric")

> x<-data.frame(id,age,name)

> x

id age name

1 1 18 bucky

2 2 13 tom

3 3 66 merry

4 4 65 eric

> nrow(x)

[1] 4

> ncol(x)

[1] 3

> dim(x)

[1] 4 3

> names(x)[2]

[1] "age"

# 14. [LISTS]

$facNum

[1] 71

$favFood

[1] "bacon"

$favVector

[1] 1 2 3 4 5

$goodFood

[1] "tuna"

$favData

id age name

1 1 18 bucky

2 2 13 tom

3 3 66 merry

4 4 65 eric

$sistersName

[1] "Hannah"

> length(buckyslist)

[1] 6

# 13. [DATA FRAME BY USING VECTOR]

> x<-data.frame(id,age,name)

> x

id age name

1 1 18 bucky

2 2 13 tom

3 3 66 merry

4 4 65 eric

> x$age

[1] 18 13 66 65

> x[2]

age

1 18

2 13

3 66

4 65

> x[2,2]

[1] 13

> x[3,1:3]

id age name

3 3 66 merry

> class(x["age"])

[1] "data.frame"

> class(x[,"age"])

[1] "numeric"

# 16. CSV

> myData<-read.csv("January2006.csv",TRUE,",")

> class(myData)

[1] "data.frame"

> head(myData)

cdatetime address district beat grid

1 1/1/06 0:00 3108 OCCIDENTAL DR 3 3C 1115

2 1/1/06 0:00 2082 EXPEDITION WAY 5 5A 1512

3 1/1/06 0:00 4 PALEN CT 2 2A 212

4 1/1/06 0:00 22 BECKFORD CT 6 6C 1443

5 1/1/06 0:00 3421 AUBURN BLVD 2 2A 508

6 1/1/06 0:00 5301 BONNIEMAE WAY 6 6B 1084

crimedescr ucr\_ncic\_code latitude longitude

1 10851(A)VC TAKE VEH W/O OWNER 2404 38.55042 -121.3914

2 459 PC BURGLARY RESIDENCE 2204 38.47350 -121.4902

3 10851(A)VC TAKE VEH W/O OWNER 2404 38.65785 -121.4621

4 476 PC PASS FICTICIOUS CHECK 2501 38.50677 -121.4270

5 459 PC BURGLARY-UNSPECIFIED 2299 38.63745 -121.3846

6 530.5 PC USE PERSONAL ID INFO 2604 38.52698 -121.4513

> tail(myData)

cdatetime address district beat grid

7579 1/31/06 23:31 39TH ST / STOCKTON BLVD 6 6B 1005

7580 1/31/06 23:36 26TH ST / G ST 3 3B 728

7581 1/31/06 23:40 4011 FREEPORT BLVD 4 4A 957

7582 1/31/06 23:41 30TH ST / K ST 3 3C 841

7583 1/31/06 23:45 5303 FRANKLIN BLVD 4 4B 969

7584 1/31/06 23:50 COBBLE COVE LN / COBBLE 4 4C 1294

crimedescr ucr\_ncic\_code latitude longitude

7579 CASUALTY REPORT 7000 38.55664 -121.4597

7580 594(B)(2)(A) VANDALISM/ -$400 2999 38.57783 -121.4705

7581 459 PC BURGLARY BUSINESS 2203 38.53759 -121.4926

7582 TRAFFIC-ACCIDENT INJURY 5400 38.57203 -121.4670

7583 3056 PAROLE VIO - I RPT 7000 38.52719 -121.4712

7584 TRAFFIC-ACCIDENT-NON INJURY 5400 38.47963 -121.5286

# 15. MATRIX

> one<-matrix(1:100,nrow=10)

> one

[,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10]

[1,] 1 11 21 31 41 51 61 71 81 91

[2,] 2 12 22 32 42 52 62 72 82 92

[3,] 3 13 23 33 43 53 63 73 83 93

[4,] 4 14 24 34 44 54 64 74 84 94

[5,] 5 15 25 35 45 55 65 75 85 95

[6,] 6 16 26 36 46 56 66 76 86 96

[7,] 7 17 27 37 47 57 67 77 87 97

[8,] 8 18 28 38 48 58 68 78 88 98

[9,] 9 19 29 39 49 59 69 79 89 99

[10,] 10 20 30 40 50 60 70 80 90 100

> two<-matrix(51:60,nrow=2)

> three<-matrix(61:70,nrow=2)

> two

[,1] [,2] [,3] [,4] [,5]

[1,] 51 53 55 57 59

[2,] 52 54 56 58 60

> three

[,1] [,2] [,3] [,4] [,5]

[1,] 61 63 65 67 69

[2,] 62 64 66 68 70

> dim(one)

[1] 10 10

> dim(two)

[1] 2 5

> dim(three)

[1] 2 5

# 17. CHARTS AND GRAPHS

> myData<-read.csv("January2006.csv",TRUE,",")

> head(myData)

cdatetime address district beat grid

1 1/1/06 0:00 3108 OCCIDENTAL DR 3 3C 1115

2 1/1/06 0:00 2082 EXPEDITION WAY 5 5A 1512

3 1/1/06 0:00 4 PALEN CT 2 2A 212

4 1/1/06 0:00 22 BECKFORD CT 6 6C 1443

5 1/1/06 0:00 3421 AUBURN BLVD 2 2A 508

6 1/1/06 0:00 5301 BONNIEMAE WAY 6 6B 1084

crimedescr ucr\_ncic\_code latitude longitude

1 10851(A)VC TAKE VEH W/O OWNER 2404 38.55042 -121.3914

2 459 PC BURGLARY RESIDENCE 2204 38.47350 -121.4902

3 10851(A)VC TAKE VEH W/O OWNER 2404 38.65785 -121.4621

4 476 PC PASS FICTICIOUS CHECK 2501 38.50677 -121.4270

5 459 PC BURGLARY-UNSPECIFIED 2299 38.63745 -121.3846

6 530.5 PC USE PERSONAL ID INFO 2604 38.52698 -121.4513

> hist(myData$grid, main="grid on January2006",ylab="grid",xlab="district")

> plot(myData$grid,myData$latitude,ylab="grid",xlab="latitude")



# 18. MAKE A MARIX

ls<-c(1,26,24,68)

> rnames<-c("R1","R2")

> cnames<-c("C1","C2")

>

> cells

[1] 1 26 24 68

> cnames

[1] "C1" "C2"

> rnames

[1] "R1" "R2"

> mymatrix<-matrix(cells,nrow=2,ncol=2,byrow=TRUE,dimnames=list(rnames,cnames))

> mymatrix

C1 C2

R1 1 26

R2 24 68

> dim(mymatrix)

[1] 2 2

> class(mymatrix)

[1] "matrix"

> str(mymatrix)

num [1:2, 1:2] 1 24 26 68

- attr(\*, "dimnames")=List of 2

..$ : chr [1:2] "R1" "R2"

..$ : chr [1:2] "C1" "C2"

# 19. MATRIX ADDITION

> x<-matrix(1:20,nrow=5,ncol=4)

> y<-matrix(20:1,byrow=TRUE,nrow=5,ncol=4)

> z<-cbind(x,y[,4])

> z

[,1] [,2] [,3] [,4] [,5]

[1,] 1 6 11 16 17

[2,] 2 7 12 17 13

[3,] 3 8 13 18 9

[4,] 4 9 14 19 5

[5,] 5 10 15 20 1