Chap2 Intro2

mat <- matrix(data=1:4, nrow=2, ncol=2) vec <- c(T,F,F,T) str <- "Hello" mylist <- list(mat, vec, str) mylist names(mylist) <- c("matrix", "vector", "string") mylist <- list(matrix=mat, vector=vec, string=str) mylistsvector #by name mylist[2]] #by ite DATA FRAMES mydata <- data.frame(person=c("Kim","Lee","Park", "Choi","Han"), age=c(22,32,40,19,26), sex=factor(c("M","F","F","M","F"))) mydata\$age mydata\$age mydata\$age[2] mydata[2,3] nrow(mydata) dim(mydata) rowrecord <- data.frame(person="Hong",age=10,sex="M") mydata <- rbind(mydata, rowrecord) height <- c(170, 185, 150, 160, 165, 175) mydata[mydata\$sex=="M",] #loc theo côt mydata[mydata\$sex=="M",3] #to't tr' côt 3 mydata[mydata\$sex=="M",3] #to't tr' côt 3	List	
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	> mydata <- cbind(mydata, height)	
mydata[mydata\$cov="M"_3] #yà trừ cốt 3	mydata[mydata\$sex=="M",] #lọc theo cột	
myuata[myuataγsex== ivi ,=s] #va tiu tọt s	mydata[mydata\$sex=="M",-3] #và trừ cột 3	
mydata[mydata\$age > 25 & mydata\$height > 160,]	mydata[mydata\$age > 25 & mydata\$height > 160,]	
SPECIAL VALUES	SPECIAL VALUES	
Inf / Inf	Inf / Inf	
0/0	0/0	
mydata\$age[1] <- NA	mydata\$age[1] <- NA	
mydata[1:3,]	mydata[1:3,]	

Conditions and Loops	
vec <- c(1,3,0,1)	
> if(length(vec) > 0) cat("vec has", length(vec), "elements")	
> if(length(vec) > 0) { # if-else 문	
+ cat("vec has", length(vec), "elements")	
+ } else {	
+ cat("vec is empty")	
+}	
> x <- 2	
> y <- if(x==2) x else x+1	
> y	
x <- c(5,2,9,12)	x>6 thif *2, be hon thi *3
ifelse(x > 6, 2*x, 3*x)	
y <- 1:10	
z <- ifelse(y %% 2 == 0, 5, 12)	
x <- 1	
for (i in 1:10) x <- x*i	
vec <- c(0.5, 1.3, 0.7, 2.2)	
for(i in vec) print(i^2)	
for(i in 1:length(vec)) print(vec[i]^2)	
vec <- NULL	> vec <- NULL
i<- 1	> i <- 1
> while(i<-i	> while(TRUE){
+ i<-i+1	+ vec[i]<-i
+}	+ i<-i+1
	+ if(i>9)break # break
	+}
> repeat {	
+ vec[i]<-i	
+ i<-i+1	
+ if(i>9)break }	

Function		
> library(ggplot2)		
> qplot(x=1:5, y=c(-1,2,1,3,-2))		
A <- matrix(data=1:6, nrow=2, ncol=3)		
A <- matrix(1:6, 2, 3, dimnames = list(c("r1","r2"), c("c1","c2","c3")))	
사용자 함수 작성		
function name <- function(arg1,	Oddcount <- function(ve	ec){
arg2){	k <- 0	
return() }	for (i in vec) {	
	if (i %% 2 ==1) k <- k+1	
	}	
	return k	
	}	
	oddcount(vec=c(1,3,5))	
Basic Plotting		
x <- c(1.1,2,3.5,3.9,4.2)		
y <- c(2,2.2,-1.3,0,0.2)		
plot(x,y)		
z <- cbind(x,y)		
plot(z)		
Type: point, line		
Main, xlab, ylab: graph, x axis, y axis's name		
Col: point, line's color (1: đen, 2 đỏ, 3 lục)		
pch: loại hình điểm		
lty: loại hình đường		
lwd: độ dày đường		
xlim, ylim: x, y phạm vi		
plot(1:8, 1:8, col=1:8, pch=19, cex=4)		"character expansion"
		(mở rộng ký tự)
plot(1:25, 1:25, pch=1:25, cex=3)		
height <- c(166,173,181,175,169,179)		

weight <- c(60,72,79,65,62,84)	
plot(height, weight, main="Correlation between height and weight",	
xlim=c(163,185), ylim=c(55,90), cex=1.5, pch=15, col=1:5)	
a <- lm(weight~height)	
а	
abline(a, col="red", lwd=3)	
abline() trong R được sử dụng để vẽ một đường thẳng trên một	
biểu đồ.	
points(): thêm điểm	
lines()	
ablines()	
segments()	