Assignment1

yaru peng

3/10/2018

Exercises1.Vectors #1 #(a) x <- 1:20

(b)

y <- 20:1

(c)

z <- append(x, y, after = 19)

(d)

tmp <- c(4, 6, 3)

(e)

rep.int(tmp,10)

(f)

rep(tmp, 11, len = 31)

(g)

rep(tmp, c(10,20,30))

2

x <- seq(3,6,0.1) values <- exp(x)*cos(x)

3

(a)

vecs1<-(0.1^seq(3,36,3)*(0.2^seq(1,34,3))

(b)

vecs2<-(2^seq(1,25))/seq(1,25)

4

(a)

vecs3<-seq(10,100)^3 + 4*seq(10,100)^2

(b)

a <- seq(1,25) vecs4<-((2^a)/a) + ((3^a)/(^a2))

5

(a)

vecs5<-paste("label",seq(1,30),sep = " ")

(b)

vecs6<-paste("fn",seq(1,30))

6

set.seed(50) xVec <- sample(0:999, 250, replace=T) yVec <- sample(0:999, 250, replace=T)

(a)

v <- c(yvec[2:250]-xVec[1:249])

(b)

v1 <- c(sin(yvec[1:249])/cos(xVec[2,250]))

(c)

v2 <- c(xVec[1,248]+2*xVec[2,249]-xVec[3,250])

(d)

sum(exp(-xVec[2,250])/(xVec[1,249]+10))

7

(a)

a <- yVec[yVec>600]

(b)

yInd <- match(a,yVec)

(c)

xInd <- xVec[yInd]

(d)

xMean <- mean(xVec) v3 <- abs(xVec-xMean)^(1/2)

(e)

sortedY <- sort(yVec,decreasing = FALSE) w200 <- sortedY[sortedY<200]

(f)

length(xVec[xVec%%2 == 0])

(g)

sortedY <- sort(yVec,decreasing = FALSE) yInd <- match(sortedY, yVec) sort(xVec)[yInd]

(h)

i <- seq(1,250,3) yVec[i]

8

sum(cumprod(seq(2,38,2)/seq(2,39,2)))+1