#MEAN BOOTSTRAP

data=rnorm(100,0,1)

bootstrap=function(data, n, B)

{

ulang=matrix(nrow=n,ncol=B)

rata=matrix(nrow=1, ncol=B)

for (i in 1:B)

{

ulang[,i]=sample(data, n, replace=T)

rata[,i]=mean(ulang[,i])

}

hist(rata)

meanB=mean(rata)

bias=meanB-mean(data)

seB=sd(rata)

list(mean=mean(data), meanB=meanB, bias=bias, seB=seB)

}

bootstrap(data, 100, 1000)

#MEAN JACKNIFE

jacknife=function(data)

{

n=length(data)

j=n-1

ulang=matrix(nrow=j,ncol=n)

rata=matrix(nrow=1, ncol=n)

for (i in 1:n)

{

ulang[,i]=data[-i]

rata[,i]=mean(ulang[,i])

}

hist(rata)

meanJ=mean(rata)

bias=(n-1)\*(meanJ-mean(data))

seJ=sd(rata)\*((n-1)/sqrt(n))

list(mean=mean(data), meanJ=meanJ, bias=bias, seJ=seJ)

}

jacknife(data)

#CORR BOOTSTRAP

x=rnorm(100,0,1)

y=rchisq(100,1)

data=cbind(x,y)

head(data)

bootkor = function(data,m,R)

{

n = nrow(data)

kor = matrix(nrow=1, ncol=R)

for (i in 1:R)

{

urut = c(1:n)

posisi = sample(urut,m,replace=T)

data\_new=data[posisi,]

kor[,i] = cor(data\_new[,1],data\_new[,2])

}

kor

korelasi\_boot = mean(kor)

korelasi=cor(data[,1],data[,2])

bias= korelasi\_boot-korelasi

hist(kor)

list(korboot = korelasi\_boot, korelasi=korelasi,bias=bias)

}

bootkor(data,100,1000)

bootkor(data,300,1000)

bootkor(data,100,1000000)

bootkor(data,300,1000000)

#CORR JACKKNIFE

x=rnorm(100,0,1)

y=rchisq(100,1)

data=cbind(x,y)

head(data)

jack\_kor = function(data)

{

n=nrow(data)

j=n-1

ulang=matrix(nrow=j,ncol=n)

rata=matrix(nrow=1, ncol=n)

kor = matrix(nrow=1, ncol=R)

for (i in 1:R)

{

data\_new=data[-i,]

kor[,i] = cor(data\_new[,1],data\_new[,2])

}

korelasi\_boot = mean(kor)

korelasi=cor(data[,1],data[,2])

bias= (n-1)\*(korelasi\_boot-korelasi)

hist(kor)

list(korboot = korelasi\_boot, korelasi=korelasi,bias=bias)

}

jack\_kor(data)