Lab Assignment 1 Omkar Ashok Kalange

Task 1 :

Rolling a dice 3 times using rolldice() function of prob library:

su1 <- subset(s1,(X1==X2) & (X1==X3) & (X2==X3))

> su1

X1 X2 X3 probs

1 1 1 1 0.00462963

44 2 2 2 0.00462963

87 3 3 3 0.00462963

130 4 4 4 0.00462963

173 5 5 5 0.00462963

216 6 6 6 0.00462963

>

> Prob(su1)#1 a answer

[1] 0.02777778

>

su3 <- subset(s1, (X1+X2+X3) >6)

> Prob(su3)#1,b question

[1] 0.9074074

su4 <- subset(s1, (X1==2)&(X2==2))

> Prob(su4) #1,c question

[1] 0.02777778

>

Task 2:

Tossing a coin using tosscoin() function of prob –

> t1 <- tosscoin(times=3,makespace="TRUE")

>

> a1 <- subset(t1, toss1=="H")

>

> Prob(a1) #2 a answer

[1] 0.5

> a2 <- subset(t1, toss3=="T")

>

> Prob(a2) #2 b answer

[1] 0.5

> a3 <- subset(t1, toss1=="H" & toss2=="H" & toss3=="H")

>

> Prob(a3) #2 c answer

[1] 0.125

> a4 <- subset(t1, toss1=="T" | toss2=="T" | toss3=="T")

>

> Prob(a4) #2 d answer

[1] 0.875

Task 3:

Sampling two balls from urn. This can be done by urnsamples()

#3rd question

>

>

> b <- c("red", "blue", "green")

>

> b1 <- urnsamples(b, size=2, replace= TRUE, ordered=TRUE)

>

> b2 <- subset(b1, X1==X2) #3 a answer

b3 <- subset(b1, X1=="red" | X2=="red") #3 b answer

Task 4:

Drawing the cards from a pack of cards using cards() function of prob library.

#4th question

>

> c <- cards(makespace=TRUE)

>

> c1 <- subset(c, suit=="Diamond")

>

> Prob(c1) #4 a answer

[1] 0.25

>

> c2 <- subset(c, suit=="Heart" & rank=="K")

>

> Prob(c2) #4 b answer

[1] 0.01923077

>

> c3 <- subset(c, rank=="K" | rank=="A" | rank=="J" | rank=="Q")

>

> Prob(c3) #4 c answer

[1] 0.3076923

>

> c4 <- subset(c, rank=="A")

>

> c5 <- subset(c, suit=="Club")

>

> c6 <- Prob(c4, given=c5) #4 D answer