DELHI TECHNOLOGICAL UNIVERSITY

PROBABILITY AND STATISTICS (MC-205)

PRACTICAL FILE

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EXPERIMENT 4

Distribution of Curves for Data

SOURCE CODE:

```
avghours<- data.frame(sports=c("Basketball","Badminton","Table
Tennis","Lawn Tennis","Football"), avg_hours= c(2,3,2,1.5,3.5))

numofstudents<-data.frame(num_of_students= c(10,23,65,35,16))

sports<- cbind(avghours,numofstudents)

new<- cbind(sports=c("Cricket"), avg_hours=c(4),
num_of_students=c(34))

total<-rbind(sports,new)
```

## 1. Histogram with Line Density Plot

```
x<-as.numeric(total$avg_hours)

hist(x,col='pink', xlab='Average Hours Sport Played', main = 'Histogram
with Normal Curve' )

xfit<-seq(min(x),max(x), length =4)

yfit<- dnorm(xfit, mean=mean(x), sd=sd(x))

lines(xfit, yfit, col='blue', lwd=3)
```

2. Kernel Density Plot

```
d<- density(as.numeric(total$avg_hours))
plot(d, main="Kernel Density Plot of Avg Hours")
polygon(d, col="blue", border="yellow")
```

OUTPUT:

1. Histogram with Line Density Plot

Histogram with Normal Curve
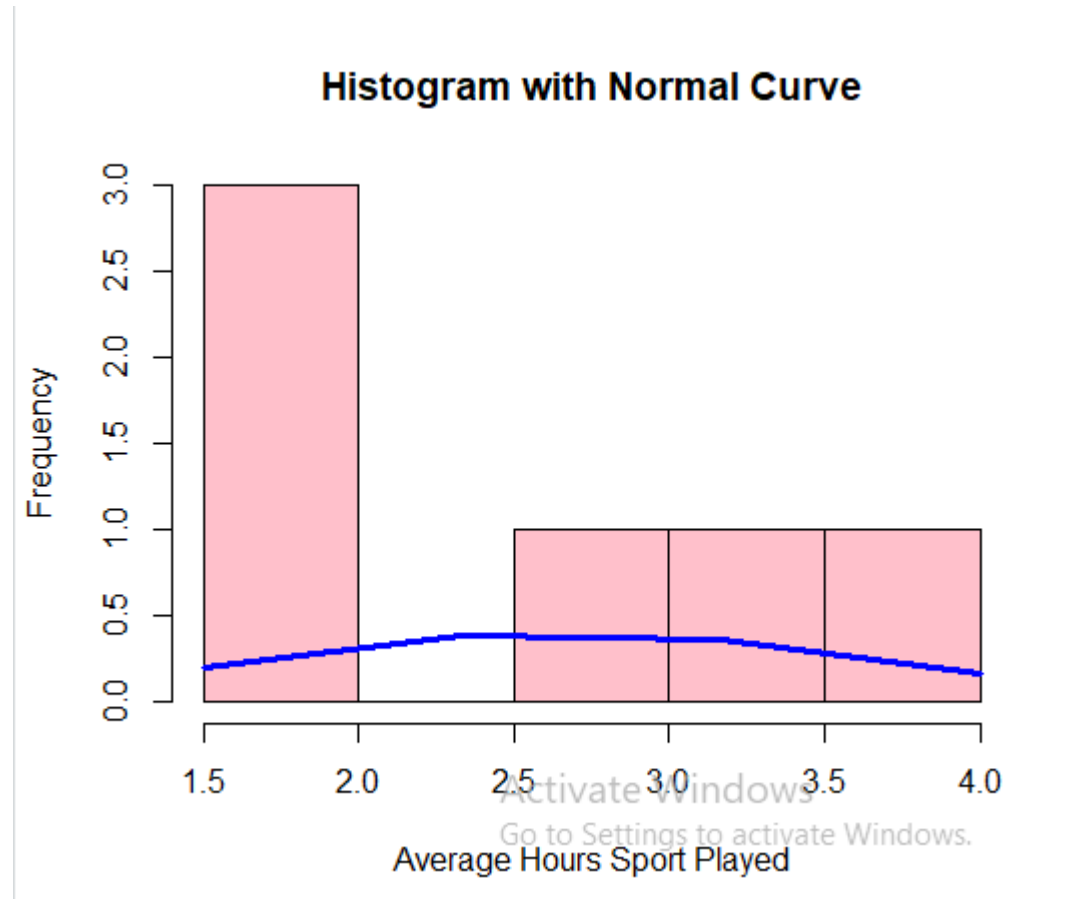
2. Kernel Density Plot

Kernel Density Plot of Avg Hours

Density

N = 6   Bandwidth = 0.6184