**CODE FOR ANALYSIS PERFORMED**

**#Reading the data set.**

data <- read.csv("C:\\Users\\shrad\\OneDrive\\Desktop\\MFE DATA.csv")

knowledge <- data$Q1.AI\_knowledge

**#Dividing the students on basis of their knowledge in AI.**

less<- knowledge<= 3

mid <- knowledge >= 4 & knowledge <= 7

high <- knowledge >= 8 & knowledge <= 10

lessc <- subset(data , data$Q1.AI\_knowledge <= 3)

midc <- subset(data , data$Q1.AI\_knowledge >= 4 & data$Q1.AI\_knowledge <=7)

highc <- subset(data , data$Q1.AI\_knowledge >= 8 & data$Q1.AI\_knowledge <= 10)

**#1.DEHUMANIZATION**

**#1.1Dividing the agreement and disagreement of students on “AI will lead to Dehumanization” on basis of their knowledge in AI.**

disagreelessde <- lessc$Q3.1.AI\_dehumanization <=3

agreelessde <- lessc$Q3.1.AI\_dehumanization >=4

disagreemidde <- midc$Q3.1.AI\_dehumanization <=3

agreemidde <- midc$Q3.1.AI\_dehumanization >=4

disagreehighde <- highc$Q3.1.AI\_dehumanization <=3

agreehighde <-highc$Q3.1.AI\_dehumanization >=4

dlde <- sum(disagreelessde)

dmde <- sum(disagreemidde)

dhde <- sum(disagreehighde)

alde <- sum(agreelessde)

amde <- sum(agreemidde)

ahde <- sum(agreehighde)

**#1.2Creating a contingency table for Chi-square testing and obtaining the X-squared value**

table\_dehumanization <- matrix(c(2,14,4,7,48,16),

nrow = 2, byrow = TRUE,

dimnames = list(c("Will lead to Dehumanization" , "Will not lead to Dehumanization"),

c("Less Knowledge" , "Average Knowledge" , "High Knowledge")))

table\_dehumanization

summary(table\_dehumanization)

chisq.test(table\_dehumanization)

alpha1 <- 0.05

df1 <- 2

critical\_value1 <- qchisq(1 - alpha1, df1)

critical\_value1

**#1.3Comparing critical value with X-squared value for test of independency**

chi\_squared1 <- 0.059

if (chi\_squared1 > critical\_value1) {

cat("Reject the null hypothesis. \n")

} else {

cat("Fail to Reject the null hypothesis. \n")

}

**#1.4Creating a pie chart of perception on basis on different groups of people based on their knowledge**

p <- c(alde,dlde)

labels<-c("Agree","Disagree")

piepercent<-round(100\*p/sum(p),1)

pie(p,labels = labels, main = "AI will lead to Dehumanization according to people with less knowledge", col = rainbow(length(p)))

q <- c(amde,dmde)

labels<-c("Agree","Disagree")

piepercent<-round(100\*q/sum(q),1)

pie(q,labels = labels, main = "AI will lead to Dehumanization according to people with average knowledge", col = rainbow(length(q)))

r <- c(ahde,dhde)

labels<-c("Agree","Disagree")

piepercent<-round(100\*r/sum(r),1)

pie(r,labels = labels, main = "AI will lead to Dehumanization according to people with high knowledge", col = rainbow(length(r)))

**#2.JOB REPLACEMENT**

**#2.1Dividing the agreement and disagreement of students on “AI will lead to Job replacement” on basis of their knowledge in AI.**

disagreelessjr <- lessc$Q3.2.Job\_replacement <=3

agreelessjr <- lessc$Q3.2.Job\_replacement >=4

disagreemidjr <- midc$Q3.2.Job\_replacement <=3

agreemidjr <- midc$Q3.2.Job\_replacement >=4

disagreehighjr <- highc$Q3.2.Job\_replacement <=3

agreehighjr <-highc$Q3.2.Job\_replacement >=4

dljr <- sum(disagreelessjr)

dmjr <- sum(disagreemidjr)

dhjr <- sum(disagreehighjr)

aljr <- sum(agreelessjr)

amjr <- sum(agreemidjr)

ahjr <- sum(agreehighjr)

**#2.2Creating a contingency table for Chi-square testing and obtaining the X-squared value**

table\_job\_replacement <- matrix(c(8,29,8,1,33,12),

nrow = 2, byrow = TRUE,

dimnames = list(c("Will lead to Job Replacement" , "Will not lead to Job Replacement"),

c("Less Knowledge" , "Average Knowledge" , "High Knowledge")))

table\_job\_replacement

summary(table\_job\_replacement)

chisq.test(table\_job\_replacement)

alpha2 <- 0.05

df2 <- 2

critical\_value2 <- qchisq(1 - alpha2, df2)

critical\_value2

**#2.3Comparing critical value with X-squared value for test of independency**

chi\_squared2 <- 6.492

if (chi\_squared2 > critical\_value2) {

cat("Reject the null hypothesis. \n")

} else {

cat("Fail to Reject the null hypothesis. \n")

}

**#2.4Creating a pie chart of perception on basis on different groups of people based on their knowledge**

m <- c(aljr,dljr)

labels<-c("Agree","Disagree")

piepercent<-round(100\*m/sum(m),1)

pie(m,labels = labels, main = "AI will lead to Job Replacement according to people with less knowledge", col = rainbow(length(m)))

n <- c(amjr,dmjr)

labels<-c("Agree","Disagree")

piepercent<-round(100\*n/sum(n),1)

pie(n,labels = labels, main = "AI will lead to Job Replacement according to people with average knowledge", col = rainbow(length(n)))

o <- c(ahjr,dhjr)

labels<-c("Agree","Disagree")

piepercent<-round(100\*o/sum(o),1)

pie(o,labels = labels, main = "AI will lead to Job Replacement according to people with high knowledge", col = rainbow(length(o)))

**#3.ECONOMIC CRISIS**

**#3.1Dividing the agreement and disagreement of students on “AI will lead to Economic Crisis” on basis of their knowledge in AI.**

disagreeless <- lessc$Q4.2.Economic\_crisis <=3

agreeless <- lessc$Q4.2.Economic\_crisis >=4

disagreemid <- midc$Q4.2.Economic\_crisis <=3

agreemid <- midc$Q4.2.Economic\_crisis >=4

disagreehigh <- highc$Q4.2.Economic\_crisis <=3

agreehigh <-highc$Q4.2.Economic\_crisis >=4

dl <- sum(disagreeless)

dm <- sum(disagreemid)

dh <- sum(disagreehigh)

al <- sum(agreeless)

am <- sum(agreemid)

ah <- sum(agreehigh)

**#3.2Creating a contingency table for Chi-square testing and obtaining the X-squared value**

table\_eco\_crisis <- matrix(c(3,8,5,6,54,15),

nrow = 2, byrow = TRUE,

dimnames = list(c(" Will lead to Economic Crisis" , "Will not lead to Economic Crisis"),

c("Less Knowledge" , "Average Knowledge" , "High Knowledge")))

table\_eco\_crisis

summary(table\_eco\_crisis)

chisq.test(table\_eco\_crisis)

alpha3 <- 0.05

df3 <- 2

critical\_value3 <- qchisq(1 - alpha3, df3)

critical\_value3

**#3.3Comparing critical value with X-squared value for test of independency**

chi\_squared3 <- 3.237

if (chi\_squared3 > critical\_value3) {

cat("Reject the null hypothesis. \n")

} else {

cat("Fail to reject the null hypothesis. \n")

}

**#3.4Creating a pie chart of perception on basis on different groups of people based on their knowledge**

x<-c(al,dl)

labels<-c("Agree","Disagree")

piepercent<-round(100\*x/sum(x),1)

pie(x,labels = labels, main = "AI will lead to Economic Crisis according to people with less knowledge", col = rainbow(length(x)))

y<-c(am,dm)

labels<-c("Agree","Disagree")

piepercent<-round(100\*y/sum(y),1)

pie(y,labels = labels, main = "AI will lead to Economic Crisis according to people with average knowledge", col = rainbow(length(y)))

z<-c(ah,dh)

labels<-c("Agree","Disagree")

piepercent<-round(100\*z/sum(z),1)

pie(z,labels = labels, main = "AI will lead to Economic Crisis according to people with high knowledge", col = rainbow(length(z)))

**#4.UTILITY GRADE**

**#4.1Dividing the students further on their rating of student’s believe of utility of AI in education according to the previous grouping**

ulessless <- lessc$Q7.Utility\_grade <=6

umidless <- lessc$Q7.Utility\_grade >= 7 & lessc$Q7.Utility\_grade <=8

uhighless <- lessc$Q7.Utility\_grade >= 9 & lessc$Q7.Utility\_grade <= 10

ulessmid <- midc$Q7.Utility\_grade <=6

umidmid <- midc$Q7.Utility\_grade >= 7 & midc$Q7.Utility\_grade <=8

uhighmid <- midc$Q7.Utility\_grade >= 9 & midc$Q7.Utility\_grade <= 10

ulesshigh <- highc$Q7.Utility\_grade <=6

umidhigh <- highc$Q7.Utility\_grade >= 7 & highc$Q7.Utility\_grade <=8

uhighhigh <- highc$Q7.Utility\_grade >= 9 & highc$Q7.Utility\_grade <= 10

ll <- sum(ulessless)

ml <- sum(umidless)

hl <- sum(uhighless)

lm <- sum(ulessmid)

mm <- sum(umidmid)

hm <- sum(uhighmid)

lh <- sum(ulesshigh)

mh <- sum(umidhigh)

hh <- sum(uhighhigh)

**#4.2Creating a contingency table for Chi-square testing and obtaining the X-squared value**

table\_utility\_edu <- matrix(c(5,21,2,2,24,5,2,5,13),

nrow = 3, byrow = TRUE,

dimnames = list(c("Less Utility","Average Unility","High Utility"),

c("Less Knowledge" , "Average Knowledge" , "High Knowledge")))

table\_utility\_edu

summary(table\_utility\_edu)

chisq.test(table\_utility\_edu)

alpha4 <- 0.05

df4 <- 4

critical\_value4 <- qchisq(1 - alpha4, df4)

critical\_value4

**#2.3Comparing critical value with X-squared value for test of independency**

chi\_squared4 <- 25.07

if (chi\_squared4 > critical\_value4) {

cat("Reject the null hypothesis. \n")

} else {

cat("Fail to Reject the null hypothesis. \n")

}

**#2.4Creating a pie chart of utility rating entered by groups of people on basis on people based on their knowledge by respective groups**

i<-c(ll,ml,hl)

labels<-c("Less Utility","Average Utility","High Utility")

piepercent<-round(100\*i/sum(i),1)

pie(i,labels = labels, main = "Utility of AI in education according to people with less knoelwdge", col = rainbow(length(i)))

j<-c(lm,mm,hm)

labels<-c("Less Utility","Average Utility","High Utility")

piepercent<-round(100\*j/sum(j),1)

pie(j,labels = labels, main = "Utility of AI in education according to people with average knoelwdge", col = rainbow(length(j)))

k<-c(lh,mh,hh)

labels<-c("Less Utility","Average Utility","High Utility")

piepercent<-round(100\*k/sum(k),1)

pie(k,labels = labels, main = "Utility of AI in education according to people with high knoelwdge", col = rainbow(length(k)))

**#5.GPA**

**#5.1Dividing the already grouped students further on basis of their GPA**

glesslow <- lessc$Q16.GPA >= 5.0 & lessc$Q16.GPA <= 7.5

glesshigh <- lessc$Q16.GPA >= 7.6 & lessc$Q16.GPA <=10.0

gmidlow <- midc$Q16.GPA >= 5.0 & midc$Q16.GPA <= 7.5

gmidhigh <- midc$Q16.GPA >= 7.6 & midc$Q16.GPA <=10.0

ghighlow <- highc$Q16.GPA >= 5.0 & highc$Q16.GPA <= 7.5

ghighhigh <- highc$Q16.GPA >= 7.6 & highc$Q16.GPA <=10.0

llg <- sum(glesslow)

lhg <- sum(glesshigh)

mlg <- sum(gmidlow)

mhg <- sum(gmidhigh)

hlg <- sum(ghighlow)

hhg <- sum(ghighhigh)

**#5.2Creating a contingency table for Chi-square testing and obtaining the X-squared value**

table\_gpa <- matrix(c(6,15,7,3,47,13),

nrow = 2, byrow = TRUE,

dimnames = list(c("Low Grades" , "High Grades"),

c("Less Knowledge" , "Average Knowledge" , "High Knowledge")))

table\_gpa

summary(table\_gpa)

chisq.test(table\_gpa)

alpha5 <- 0.05

df5 <- 2

critical\_value5 <- qchisq(1 - alpha5, df5)

critical\_value5

**#5.3Comparing critical value with X-squared value for test of independency**

chi\_squared5 <- 6.871

if (chi\_squared5 > critical\_value5) {

cat("Reject the null hypothesis. \n")

} else {

cat("Fail to Reject the null hypothesis. \n")

}

**#5.4Creating a pie chart of GPA grade of different groups of people based on their knowledge**

gless <- lessc$Q16.GPA

gmid <- midc$Q16.GPA

ghigh <- highc$Q16.GPA

lg <- sum(gless)

mg <- sum(gmid)

hg <- sum(ghigh)

x<-c(lg,mg,hg)

labels<-c("Low knowledge","Average knowledge","High knowledge")

piepercent<-round(100\*x/sum(x),1)

pie(x,labels = labels, main = "GPA", col = rainbow(length(x)))

**#6.ADVANTAGE OF AI IN TEACHING**

**#Pie chart according to different advantages listed of AI in teaching**

teaching <-data$Q8.Advantage\_teaching

a<- teaching ==1

b<- teaching == 2

c<- teaching ==3

oa <- sum(a)

ob <-sum(b)

oc<- sum(c)

y<-c(oa,ob,oc)

labels<-c("Teacher can be assisted in virtual learning","More efficient time management for teachers","More interactive and engaging lessons")

piepercent<-round(100\*y/sum(y),1)

pie(y,labels = labels, main = "Advantage of AI in Teaching", col = rainbow(length(y)))

**#7.ADVANTAGE OF AI IN LEARNING**

**#Pie chart according to different advantages listed of AI in learning**

learning <-data$Q9.Advantage\_learning

a<- learning ==1

b<- learning ==2

c<- learning ==3

oa <- sum(a)

ob <-sum(b)

oc<- sum(c)

x<-c(oa,ob,oc)

labels<-c("Personalized lessons according to students' needs","Universal access to all students eager to learn","More interactive and engaging lessons")

piepercent<-round(100\*x/sum(x),1)

pie(x,labels = labels, main = "Advantage of AI in Learning", col = rainbow(length(x)))

**#8.DISADVANTAGE OF AI IN EDUCATION**

**#Pie chart according to different disadvantages listed of AI in education**

disadvantage <- data$Q11.Disadvantage\_educational\_process

a<- disadvantage ==1

b<- disadvantage ==2

c<-disadvantage ==3

d<- disadvantage==4

oa<- sum(a)

ob<-sum(b)

oc<-sum(c)

od<-sum(d)

z<-c(oa,ob,oc,od)

labels<-c("Lack of relationship between teacher and student","Internet Addiction","Rarer Interactions","Loss of information caused by possible system failure")

piepercent<-round(100\*z/sum(z),1)

pie(z,labels = labels, main = "Disadvantage of AI in Educational Process", col = rainbow(length(z)))p