Experiment 5: Implementation of naive bayes

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**Code:**

color=["red","red","red","yellow","yellow","yellow","yellow","yellow","red","red"]

cartype=["sports","sports","sports","sports","sports","suv","suv","suv","suv","sports"]

origin=["domestic","domestic","domestic","domestic","imported","imported","imported","domestic","imported","imported"]

stolen=["yes","no","yes","no","yes","no","yes","no","no","yes"]

totalYes=stolen.count("yes")

totalNo=stolen.count("no")

probYes=totalYes/10

probNo=totalNo/10

colorSet=list(set(color))

cartypeSet=list(set(cartype))

originSet=list(set(origin))

pColor=[0]\*2

nColor=[0]\*2

pCartype=[0]\*2

nCartype=[0]\*2

pOrigin=[0]\*2

nOrigin=[0]\*2

for i in range (0,len(colorSet)):

for j in range (0,len(color)):

if(color[j]==colorSet[i]):

if(stolen[j]=="yes"):

pColor[i]=pColor[i]+1

else:

nColor[i]=nColor[i]+1

for i in range (0,len(cartypeSet)):

for j in range (0,len(cartype)):

if(cartype[j]==cartypeSet[i]):

if(stolen[j]=="yes"):

pCartype[i]=pCartype[i]+1

else:

nCartype[i]=nCartype[i]+1

for i in range (0,len(originSet)):

for j in range (0,len(origin)):

if(origin[j]==originSet[i]):

if(stolen[j]=="yes"):

pOrigin[i]=pOrigin[i]+1

else:

nOrigin[i]=nOrigin[i]+1

probYesRed=pColor[0]/probYes

probNoRed=nColor[0]/probNo

probYesYellow=pColor[1]/probYes

probNoYellow=nColor[1]/probNo

probYesSports=pCartype[0]/probYes

probNoSports=nCartype[0]/probNo

probYesSUV=pCartype[1]/probYes

probNoSUV=nCartype[1]/probNo

probYesDomestic=pOrigin[0]/probYes

probNoDomestic=nOrigin[0]/probNo

probYesImported=pOrigin[1]/probYes

probNoImported=nOrigin[1]/probNo

pA\_yes=probYesRed\*probYesDomestic\*probYesSUV\*probYes

pA\_no=probNoRed\*probNoDomestic\*probNoSUV\*probNo

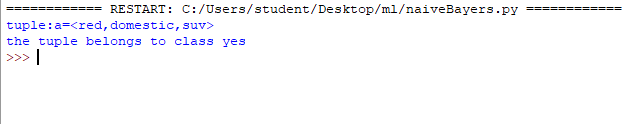
if(pA\_yes>pA\_no):

print("the tuple belongs to class no")

else:

print("the tuple belongs to class yes")

**OUTPUT:**

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