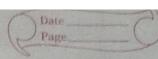
SAT	DA ASSIGNMENT-I	Date						
	DA ASSIGNMENT - I MANSI DWIVEDI 2019	1140016 BR 17						
Q1)	(Casal							
	map the tuple into a class:							
	map the tuple into a class.							
	Maing Naive Bayes we can try to find the manimum likelihood.							
No oto	· Using Naive Bayes we can try to find the manimum							
beto	likelihood.							
- Care	The formula for Naives Bayes theorem is given as:							
	P(y + n1, n2, n3 xn) = P(n1y). P(n2/y). P(n3/y). P(n1/y)  P(n1). P(n2). P(n3) P(n3)							
	P(M1).P(M2).P(M3) P(Mn)							
1		+121						
0	For the given data we have	0 :						
· # ·	For the given data we have:  Jotal tuple = 20.							
in (i)	) P (on time) = 14 = 0.7	When class was to be						
1101	$P(\text{on time}) = \frac{14}{20} = 0.7$	when class was on time						
		K AN THURSDAY ASKING						
Lan	P ( Late) = 2 = 0.1	2 instances when class was						
NEW L	extensed by account allege	L Cate						
(ì	11) P ( Very late) = 3 = 0.15	[ 3 instances when class was ]						
	20	l very late						
Cit		ruffet - Lunited						
Cu	1 ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	1 instance when the clas						
	20	[ itself was cancelled]						



Now lets find the proor (conditional probabilities for each attribute.

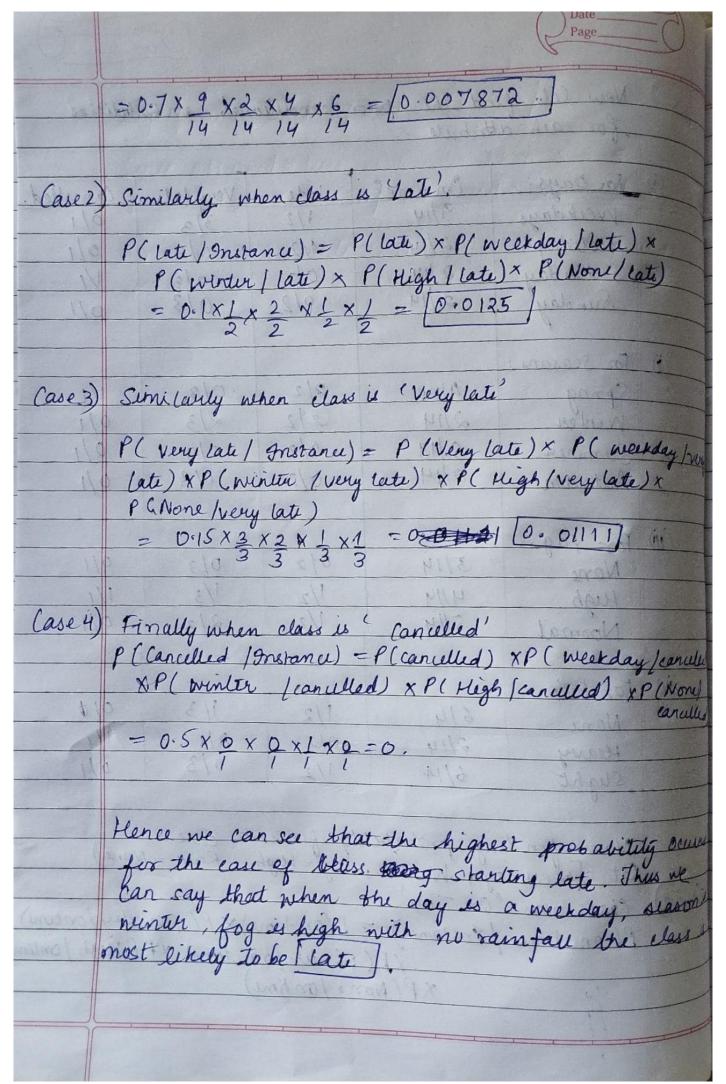
(1)	For Days:	On time	late	Very late	Cancelled.	
	Weekdays	9/14	1/2	3/3	oli	
18	Holiday	2/14	1/2	0/3	oli	
(1)	Saburday	2/14	0/2	0/3	1/1	
	Sunday	1 2/14	0/2	0/3	0/1	
		70.3		-		
(10)	For Season:		0/0	0/0		
	Spring	4/14	0/2	0/3	YI	
	Winter	2/14	2/2	2/3	0/1	
Ada .	Summer	6/14	0/2	0/3	0/1	
7 14	Autumn	2/14	0/2	1/3	0/1	
			lass)	Chers /very	4	
(ii)	For Fog:	10年10日	1x 1 x s	"called		
(III)	None	3/14	0/2	0/3	0/1	
	High	4/14	1/2	1/3	1/1	
	Normal	5/14	1/2	2/3	10/1	
Pearle	XP ( MICHELLE )	Flandled)	* (Ministra)	at bottomed	Mart	
(iv)	For Rain	Lead It is the	of concelle	My printer		
11.153	None	614	1/2	1/3	010	
	Heavy	2/14	0/2	2/3	MI.	
	Slight	6/14	1/2	0/3	0/1	
	0	1978/8 2 / 10/10/2019		7.77 6 20 20 20		

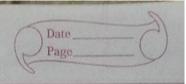
Now finding probability for each case:

Bet [Weekday, Winter, Fog = High, Rain = None)

Case 1) Chase was 'On Time'.

P(on time / Instance) = P(on time) x P( weekday lonter XP (winter for time) XP (High for x P(None Jon time)





(8.2) Sample size = n = 1500.

Let's de state our nell and alternate hyporhesis

H.: Pereffered reading and gender are not correlated or

are independent Ha: Preffred reading and gender are not independe of each other.

Let us perform chi-square test to test our hypothesis

$$\chi^2 = \sum_{i=1}^{m} \sum_{j=1}^{n} \frac{(0ij - eij)^2}{(eij - enputed frequency)}$$
 $\chi^2 = \sum_{i=1}^{m} \sum_{j=1}^{n} \frac{(0ij - eij)^2}{(eij - enputed frequency)}$ 
 $\chi^2 = \sum_{i=1}^{m} \sum_{j=1}^{n} \frac{(0ij - eij)^2}{(eij - enputed frequency)}$ 

n= no of columns

 $\frac{\chi^{2} = (250 - 90)^{2} + (50 - 20)^{2} + (200 - 360)^{2}}{90} + (1000 - 840)^{2} + (1000 - 840)^{2}}$ 

 $= (160)^{2} + (-160)^{2} + (-160)^{2} + (160)^{2}$   $90 \qquad 210 \qquad 360 \qquad 840$ 

= 284-444 + 121,9047 + 71.1111 + 30,47619

= 507.93639.

Now here degree of freedom is given as (m-1) (n-1) since m= n=2 df = (2-1)(2-1) = 1

From the chisquere table we can see that the value corresponding to I digree of freedom and a

