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	DADM Arnil Patil
	Akhil Patil
<u> </u>	
91	Puoblem 1
	(b)
	> 1 la have hallow's an alables
	> We have following equalaties,
	R2 = 1- R55
	TSS
	$=1-\mathcal{E}_{i}(\mathcal{Y}_{i}-\mathcal{Y}_{i})$
	E; 9;
	7 (2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.
	With y; = B, xi we may would
	R <sup>2</sup> 298 - Zi (gi - Ei xjy; Zi, xi, xi)
	1 2 1 - 2 1 ( ) 1 - 2 1 · 0) d 1 /2 1 · 0 · 1 /2
	2,0,
	The state of the s
	6:42 - E.y 26:4: E. xjy; E. xj xi
	2 2 3 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4
	Louis (E) (E) (E) (E) (E)
	100, 1200
	12 j di
	02 = 2 ( 2. xiyi) ( ; xj - (z; x; yi) (z; xj
	$\frac{1}{100}$
	2 2 ; 0 ;
P <sub>Y</sub>	(Sixiyi) 2 Cox (XIY)
	G. X. Eigi

(4 b) Case Study -> Howking Model's Overview By spliting the dataset, we have Praining set: No breast cancel = 70/100 \* 900 = 630 breast concer = 70/100 + 100 = 70. Test Set: No Breat concre 2 0.3 x 400 = 270 breof concer 2 0.3 × 100 2 30. In ouder to get what went wrong with the freediction model of Howkeins Lets consider a single case of one women, Say,
we have an assumption H, that women
is suffering from Breast pain and not
Breast concere put another assumption to
Days women was suffering from Breast if Assumption Ho is tomo (postine) - Breast concer. elel Assumption Ho is false (negotive) - No Brecht

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إل						
	me table below supresents what happens if					
	this other assumption to is true or not					
4						
-	Null Hypothesis (Ho) Null Hypo (Ho) is valid: Breast concer invalid: No Breast concer					
	Accept Ho: TP- Women has FP- Palae Alaum,					
	women has accost breast convey. Women has temporary					
	conver Breast pain but					
	No Breast cancer.					
	Reject Ho: FN- Women is healthy JN- Women					
	women does't but she's during does not have					
	have Bueast of Breast conver. Breast conver.					
	conceu.					
	wheal,					
	TP- Teure positive, FP- False Positive					
	FN- False Vegative IN = Dure Negative.					
	1 3 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3					
-	Howkins Model Prediction Results:					
	Liver of the contraction of the little contraction of the contraction					
	After training the model with 70% of dataset					
	Houseens scientist tested model with 30%					
	to evaluate me model for its accuracy					
	Their model got 270 fredictions night out					
	$\Lambda$ 2011,					
	Howkins acuvary = 270/300 = 0-9					
. \	The said the said of the said that the said of the sai					
	The What went wering then,					
_						

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	By se evaluating me model w	e gel,
.94		
	False Negative = 30	
	DO JAME O	
	July Negative = 270  False Positive = 0	
	False Positive = 0	
	Bulding a confusion pateir with	abul data,
	Actual-concer Actual-Mot	Total.
	Actual-concer Actual-Mol concer	10100
~	Predicted - TP20 FP20	0
-	Conceu PP20 PP20	
	predicted - FN=30 TN=270	300
	Not concell	
	Total. 30 270	300
	Who was a supplied to the supplied of the supp	
	In summary,	
	A CONTRACT DAYS DE	
	Howkins model coverty dassified 27 who do not have breast concer	as
	'No Breast Concer while it incom	vecty
10-	20 No breed conver.	breast conv
The stage of the s	so No breast conver.	NO.
and the second		100
2	Here, the model has convinently all the fest data as "No B According is 10%.	dasnifica
	all the fest data as "No B	reast Lance
- The state of the	Alcoweau is 70%	

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But,
None of the Breast cancer doto is coerectly lobeled we can it evaluate this
coerectly lobeled. We can to evaluate this
by checking Precision & fecal.
by observing the original ground we will
indicate that people who have breast corner.
by observing the original groults we can indicate that people who have sugast cancer the model isn't precise model.
We com, perone this by,
Precision 2. TP (TP+PP)
(ne vision = 0 (0+0) = 0
preison « in y. 2 0 y.
perall = TP / (TP +FN)
pocal 2 0/ (0+30) 20
recall en 7: 207.
what his means is that, they model will always dosoify any data passed into it as I NO breast convert.
will always descript concert.
it as no so
The surfacing why some pottents were where
This explains why some pottents were where showing symptoms of Breast concer.
Jim S stay of the
Howking model did not work.

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The state of the s	
- 4/ a)	$\rightarrow$
	As ply toble,
-	The Aluli materia indicates that advects no
	The Null hypothesis indicates that advertising budgets of TV, Newspaper or addic do not have any effect on pales.  More precisely,
-	have any offert on Dales.
7 1	Maya processes
`	100 Pacces 1
	MO = B1 = 0
	$\mu(2): \beta_{0} = 0$
	H <sub>0</sub> (3): β3 2 0
	\)
	The corresponding or values are highly significant
	The corresponding problems are highly significant for
,	Newspaper. So, we reject Ho" 4 Ho" 4 not Ho".  Ne con conclude that Newspaper adversing
-	do, we reject to 4 to 4 not to.
-	de con conclude that Newspaper advertifile
-	budget do not effect soles.
	NO A DEST
Oh;	β0 = -6, β, = 0.03, β, = 1
<u>a)</u>	β0 = -6, β1 = 0.03, β0 = 1
	substituting paralues in eg of puedicted puopoblifies;
	purpos o Facility
	p(x) = e-6+0.06x, +x2
	) + ( e-6+0.05x1 +x2)
	Justical Justical
	= 0.3775

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04.	115)	-
	eg of peredicted probablites bedts us trust,	
	e-6+0.05x,+x2 (1+e-6+0.05x,+x3.5	
	(1+ e-6+005×1+3.5	
	20.5	
	which is equivalent to.	
· ·	e-6+0.05×1+3.5 =   Taking (ag on both sides,	
	Taking (in on both stack)	
	X <sub>1</sub> z 2·5 z 50 ·	
<del>Ž</del>		
	Student Mould study 50 hours.	
		_
		_
		-