1	Shivam Tindal Machine Learning
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	2020125 Assignment-2
	Section-A
1/213	was love tooch = (ove tint) survival ?!
1	(a) (a) denotes patients living function where a represents number of days he will
AUS	(a) (C) amores puedent à contra la la voill
	a représents number of augs le vill
	survive.
Cheren	Accision Thee +
males.	La dead and day of
SALL X	^
	. 10 4 0 - 24 - 2
	NO sungery with sungery
	L(3)
	successful
	tinsuccessful (0.8)
	(0.2)
- 1	88-0
	L(30)
	Suchdiffe at energeled engages To test
110	Expected value of engineering
00,	Expected value of surgery .
	$E[Surgery] = 0.8 \times L(30) + 0.2 \times L(0)$ L(30) = 1 and $L(0) = 0S0, E[Surgery] = 0.8$
2001	((30)=1 and 1(0)=0
	SO, F. [Sugarqui] = n.8
	(Storyeg) - 8
	The office of the state of the
	ins unites that if U3) < 0.8, then surgery
	This implies that if U3) < 0.8, then surgery have to be perfound.
49182	Since the country of left is persever and
	and received the same survives the
	THE HALL STATE STATE STATES

cc) we have to find P(Survive/test is tre) we can use Bayes's theorem here. P(Survive | test +ve) = P(test +ve/survive)x P(Survive) Pltest + ve / Survive) XP (Survive) + P(test +VE/Not Suge)XP(Not = 0.95 × 0.8 0.95 x 0.8, + 0.05 x 0.2 7.6+0:01 = 0.998 = 0.76 - 76 - 0.987 0.76+0.01 - 77Pubbability of successful surgery if test is
the is 0.987. (d) If the person doesn't have surgery, then L(3) = 0.8 and expected value is 0.8 x1 = 0.8 Sive the result of test is positive and then phobability that the person survives the surgery = 0.987.

Taking L(30) = 1,

expected value is 0.987 x1=0.987

Since there are high chances of surviving, given test is positive, so surgery should be perfounded. (e) NO TEST safe(p) fatal Surgery am assuming that patient will controited disease (0.005) eve Eage . 10.995 Take Since if a person take test and it turn out to very serry low, compared to previous. So it is still recommended to conduct test before operation.