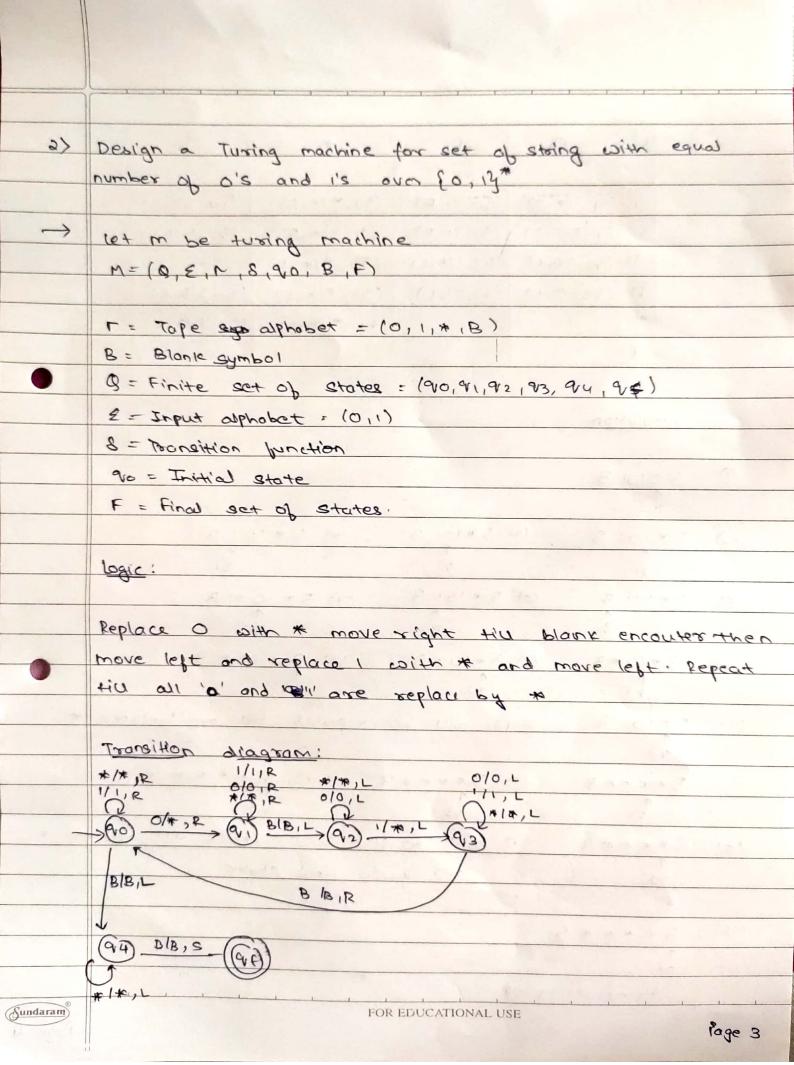
	SAP ID: 6000420	
	FLAT - Tutorial 7 Computer Engine	e ving,
1>	Doesign a Turing machine that computes a function $f(m,n) = m + n$ i.e. addition of two integers.	
\rightarrow	1ct m be turing machine m= (0, E, r, 8, 20, B, F)	
	B = Blank Symbol B = Finite set of states = (vo, v1, v2, v4)	
	E = Input alphabet = (0,1) 8 = Transition function 90 = Initial states F = Final set of States.	
	Logic:	
•	For 0 seplace with 0 move right. When Blank is encounter move left and replace orightmost o by Blank.	
	Transition diagram 0/0,R 0/0,R	
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Name: Ayush Jain

	Transition	table:						
	1	0	1	В				
	8	0		1				
	90	(ao, 9(0,R)	(q1, 40, R)	-				
	21	(Q1,0/0,R)		(92, B/B, L)				
		(at,0/B,s)	-		tamine and the			
	9.4	-	_	-	Lange Commence of the			
				3 (40)	The state of the s			
	Simulation			71	Marine millione 3			
	W=5	U = 5			Company of the second			
	800100B							
	→1800100B							
	0.000.000.00							
	2) & 00 1 0 0 B							
	3) R 00 1	^ ^ B	7 7		du grand			
	3)B00100B							
	4) B 00 0		*		411 - 10 - 20 and - 0 17 4			
		1						
	5) 8 0000	00 B						
		21						
	6) 80000	OB						
		21	1	Corp. of the				
	7) 8 0000	0 B						
	The state of the s	92						
	8) 8 00 00	SPB SPB						
Sundaram	1 1	314	, - strin	FOR EDUCAT				
						Page 2		



(6)	3	0	1	*	В		
	90	(91,0/+12)	(90, 11, R)	(40, * 1 * , 2)	(94, BIB, L)		
	91	(91,010, R)	(91, 11, R)	(9, *1+, 2)	(92, B (B,L)		
	92	(92,0/0,L)	(93,1/*,1)	(92, +/+, 1)	-		
	9,3	(93,010, L)	(93,1/1, 1)	(23, */*, 1)	(90, B/B, R)		
	94	-	1 2- 1	(24, * 1+, 1)	(94, B(B, S)		
	9.5	-	-	- 1	m - sar E		
	T.			astell us			
	Simular	ноп		Company of the Contract of the	Maria de la companya del companya de la companya de la companya del companya de la companya de l		
				war is seen	201122		
(9)	B 0101	В			1 1124		
	90				non-	4	
(5)	B * 10	1 B (3)	1 8 * 101 B	(4) B * 1	018		
(5)	B*101		8 * 101 B	(7) B * 10	The second second		
		٩.	OV2	1			
(8)	B * 10		B*10*B				
	Ŷ3 Ŷ3 Ŷ3						
(11)	B# 10 x	AB SHE	اط دانمه عم	e repeated to	ill are becar	~ 0 *	
	9/3				The tricking	116 11	
025	B***	* B (r	***	B (147 B	****	x 4	
	93		9/3	1			
(5)	8 * * *		op via 40	tiu blank	The state of the s	and one *	
	20			o to binal st		# 40C	
			3		A Maria		
(16)		** 8					
	**						
	stein	ng accepted					
Sundaram			FO	OR EDUCATIONAL USE		Page 4	
	11						

		I						
3>	pesign a	TM with	no more +	thon 3 state	s that	accepts		
	the langu	rage L= (a	1(0+5)*)					
				-	10 8 8			
\rightarrow	Above lang	uage consists	of string +	that steams	with 'a'	followed		
	by 0 0-	e more com	bination ob	'a' and 'b'				
	,							
	step 1: let	m be T	using machine	e.	1			
		r,2,8,B,			1000			
	0 = Finit	re set of ste	ates = (90, 9	11,9+)	80125			
	11	nk symbol		740				
		alphabet =	(a, 68)	E The State of the				
		xt = (a,b)		as pone is	1000			
	F = Fina	set ob sta	1te = (9t)					
	90 = Ini1	Hal state =	(90)	mr ale	Later C	(4)		
	& = Trans	sition function	20	F102	1			
		The stand						
	logic: Replace a coith a more oright.							
			1 1 1 2 1 1 2 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
	Fronsition	diagram!						
			la ir lb, r	many single	25 7 7			
	→ (vo) -	10,R,Q)-	BIB,S	,				
				1 . 32				
	Francition	Table	Aster .	and the last				
				0-292 20				
	3	a	b	B				
	90	(91, a/a, R)	-//	5 = 2000	1 70			
	91	(91,919,R)	(91, 6/b,R)	(9f, BIB, R)				
	9+	-	-	-				
Sundaram			FOR EDUCATION	NAL USE		Page 5		
						, ages		

	Simulation	11/1
	SIEWS IE.	
	→ Babb B	
	→ BabbB	-
	90	
	→ Babb B	
	qui de la companya del companya de la companya de la companya del companya de la companya della companya de la companya de la companya della companya della companya de la companya della	
	→ BabbB	
	7:	
	→ Babb B	
	94	
	Machine stops at 9t.	
	: Storing to accepted.	
4>		
	r= far Putið	
\rightarrow	Step! Let m be turing machine	
	M= (r,8, F, 90, B, Q, 1€)	
	8 = Transition bunction	
	F = Final State = (9f) 90 = Initial State = (90)	
	B = Blank symbol ,	
	B = Blake symbol B = Bet of states = (90, 91, 92, 93, 94, 94)	
	# = Input = (a,b)	
	2= 277742	
		1 1
<u>Sundaram</u> ®	FOR EDUCATIONAL USE	Page 6
	All	ALCOHOLD TO THE REAL PROPERTY.

11	ic!				and the state of t
Repl	ace a	with Blo	ink and m	nove right	tiu first
Rep	lace firs	t B with	x and	move left	Hu blank
				0	dela la la cal
Ton	nsition di	1977			
	The second secon				and the
		X/X,R a/a,R	×/* Q a/c		
100	alBIR	(2) b/x	L >(2)		NY FET L
					Cr.
b	1x,L	BBR			THE RESIDENCE
			- 0		Oi .
93	B/B,R	→(4) B B,	S (P)		rrest +
0		X/XIR			
x/x,	L				E XX EST C
					13
Lea	onsition T	able	and the same of		5 1 × 53 5 1 4 -
			2 4 N T		1/4
	3 0	a	Ь	*	В
	000	(91,01B,R)	(9.2)	(0,)	N)
	90	(91, 910, R)	(9/3, b/x,L)	(90, X/x/R)	
		(9,4/a,2)	(42, b/x,L)	(21,x/x,R)	11 11 1
	92	(V2)~(4(L)	-	(0/2, X/X/L)	(NO, BIB, R)
	94			(9/3,×(x,L)	
	94		-	(94, x(x,P)	(2f, B/B,S)
			_		

