Experiment	L TT	- CD RV SIU	
	TO B	E FILLED BY STO	11.00
Date	1 < 100	To ade Tolking	St. Page 14
LUALE			

# Pre-Tutorial (To be completed by student before attending tutorial session)

1. Design Turing machine for 1's complement of the binary numbers.

Lion:

$$\frac{1}{\sqrt{p}} - 0110$$
 $\frac{1}{\sqrt{p}} = 100$ 
 $\frac{1}{\sqrt{p}}$ 

2. Design Turing machine for 2's complement of the binary numbers. Solution:

$$\frac{1}{8} = \frac{1 - 0101}{8}$$

$$\frac{1}{9} = \frac{1}{9} = \frac{1}$$

M = (ENO, 91, 42 9, 30, 13. 80, 1, B3, S, No, B, END)

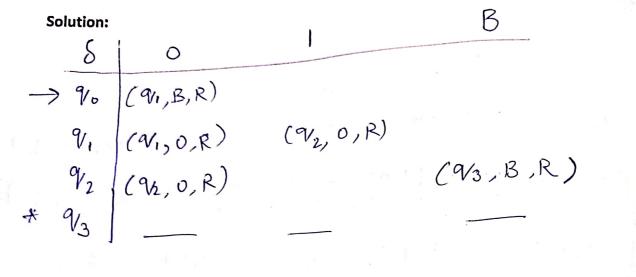
Course Title	AUTOMATA THEODY AND	
Course Code(s)	AUTOMATA THEORY AND FORMAL LANGAUGES 22CS2002A	ACADEMIC YEAR: 2023-24 185
		Page <b>185</b> of <b>263</b>

A DE EILLED BY STUDENT>

# Turing machine for left shift operation of the binary numbers.

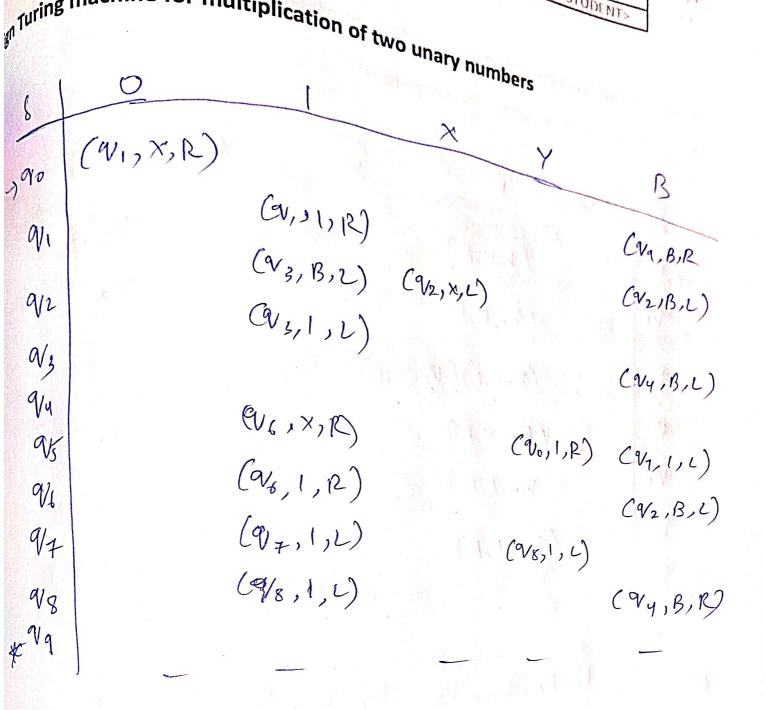
### IN-TUTORIAL (To be carried out in presence of faculty in classroom)

## 1. Design Turing machine for addition of two unary numbers.



#### 2. Design Turing machine for proper subtraction of two unary numbers

AUTOMATA THEORY AND FORMAL LANGAUGES **Course Title** ACADEMIC YEAR: 2023-24



 $M = ( \{ \{ \{ \{ \} \} \} \}, \{ \{ \} \}, \{ \} \}, \{ \{ \} \}, \{ \} \}, \{ \{ \} \}, \{ \} \}, \{ \{ \} \}, \{ \} \}, \{ \{ \} \}, \{ \} \}, \{ \{ \} \}, \{ \} \}, \{ \{ \} \}, \{ \}, \{ \} \}, \{ \{ \} \}, \{ \},$ 

## Post-Tutorial (To be carried out by student after attending tutorial session)

## Design Turing machine to compute n<sup>2</sup>

Solution:

BE FILLED BY STUDENT>

## uring machine to compute n!

S, 96, B, 895)

#### Viva- Questions.

#### Define a computable function.

A computable function is a function for which there exists an algorithm cor which there exists an algorithm cor function the Juning machine) that can persoluce the cornect output for any valid Input in a finite number of steps. It operates within the bounds of a well defined perocedure, yielding output after processing the input.

#### (For Evaluator's use only)

Comment of the Evaluator (if Any)	Evaluator's Observation	
	Marks Secured:	out of <u>50</u>
	Full Name of the Evalu	ator:
	Signature of the Evalua	tor Date of
	Evaluation:	

ourse little	AUTOMATA TUES	
	AUTOMATA THEORY AND FORMAL LANGAUGES	1
Durse Codo(a)	- ONWIAL LANGAUGES	ACADEMIC YEAR: 2023-24
ourse Code(s)	22(520024	ACADEIVIIC YEAR, 2000