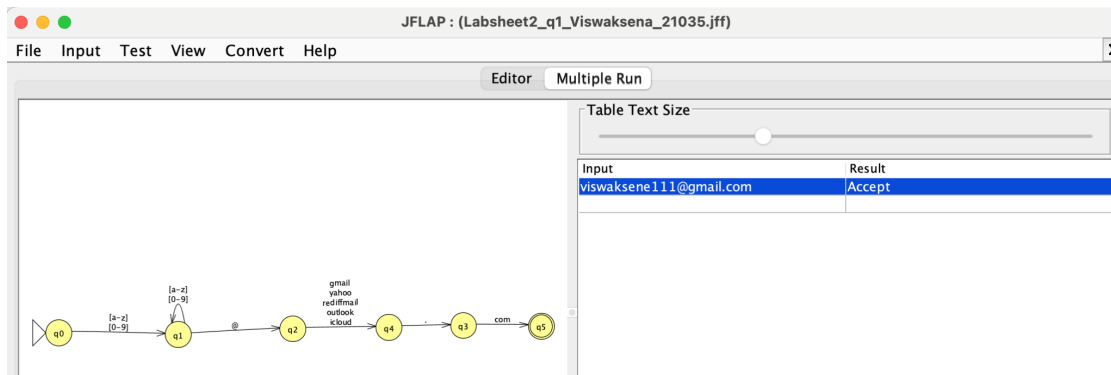


LABSHEET - 2

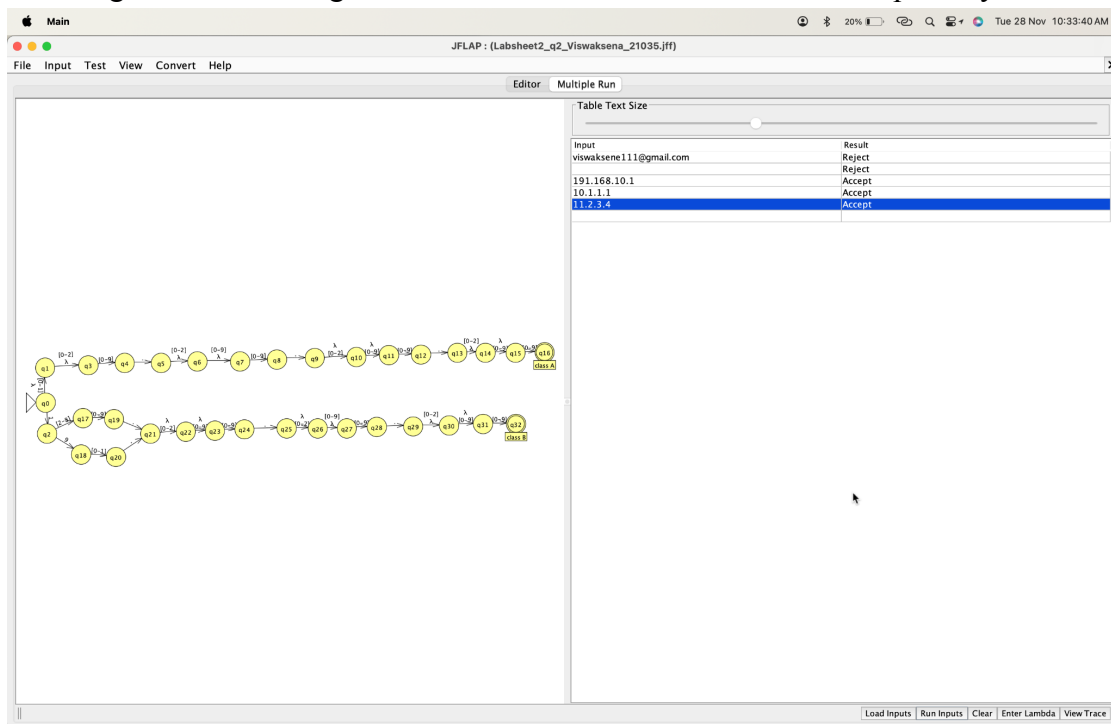
NAME: J Viswaksena
AM.EN.U4AIE21035

Roll.No:

- Design a Finite machine to recognize the gmail, outlook, yahoo, rediffmail, icloud based mail ids.



- Design a DFA to recognize the IP addresses of classes A and B separately.



- DFA to recognize the registration number of all students who belong to various departments including UG and PG in Amrita.

Input	Result
AM.EN.U4AIE21035	Accept
BN.EN.U4AIE21035	Reject
BL.EN.U4AIE21035	Accept

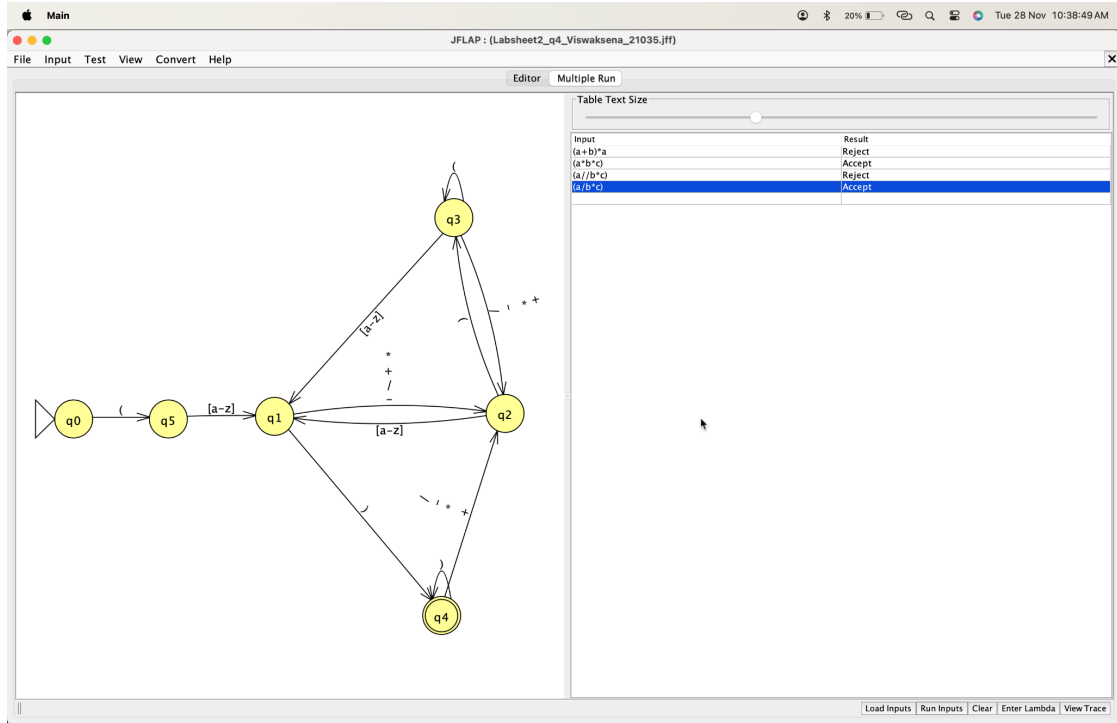
4. To recognize the arithmetic expression with and without parenthesis. Assume the input alphabets as +, -, * and /

Example of valid expressions: $a+b$, $a+b*d$

→ With parenthesis

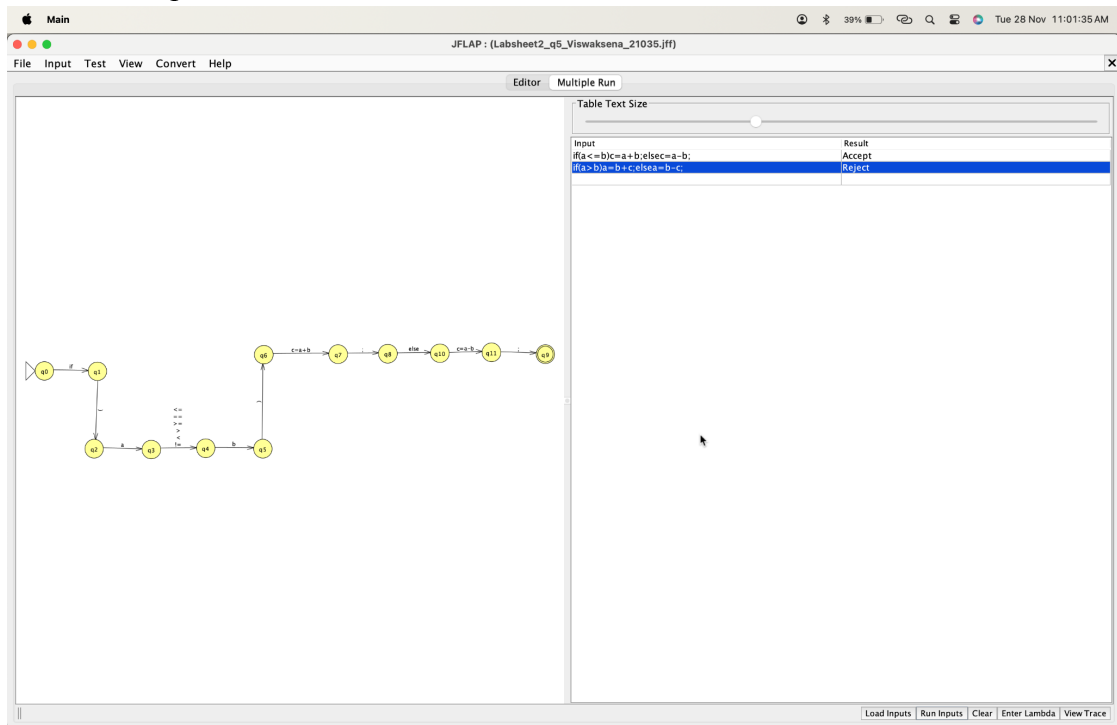
Input	Result
(a+b)*a	Reject
(a*b*c)	Reject
(a//b*c)	Reject
(a/b*c)	Reject
a*b*c	Accept
a+b*c	Accept

→ Without parenthesis



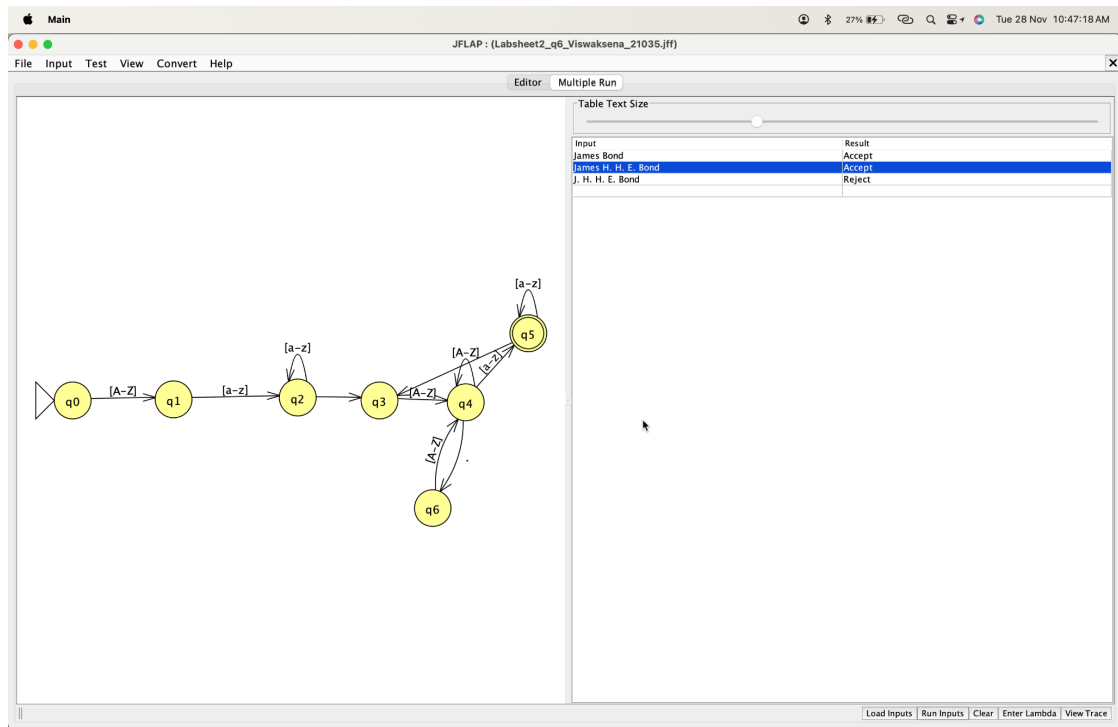
5. To recognize the if-else statement with a simple condition block composed of a logical expression.

Ex: if $(a > b)$ s1; else s2; try for all 6 relational operators. S1 and s2 can be a simple arithmetic expression of the format $a=b+c$.



6. Generate the DFA or NFA for the following language:

All valid names of people: a first name and an optional last name and any other middle names or middle initials (e.g. James Bond or James H. H. E. Bond); or any number of initials followed by a single name (e.g. J. H. H. E. Bond). First name, middle name and last name are all in init-caps (i.e. only the first letter is capitalized); initials are a capital letter followed by a period.



7. Validate the identifiers in C language

