Tên: Nguyễn Thị Nhật

MSSV: 19IT 183

Câu 1.

$$key = 'if' + 'then' + 'else'$$

$$num = ('0' + '1' + '2' + '3' + '4' + '5')^+$$

$$ide = [a-z]^+ ([a-z] + '6' + '7' + '8' + '9')^*$$

$$ope = '=' + '>' + '<'$$

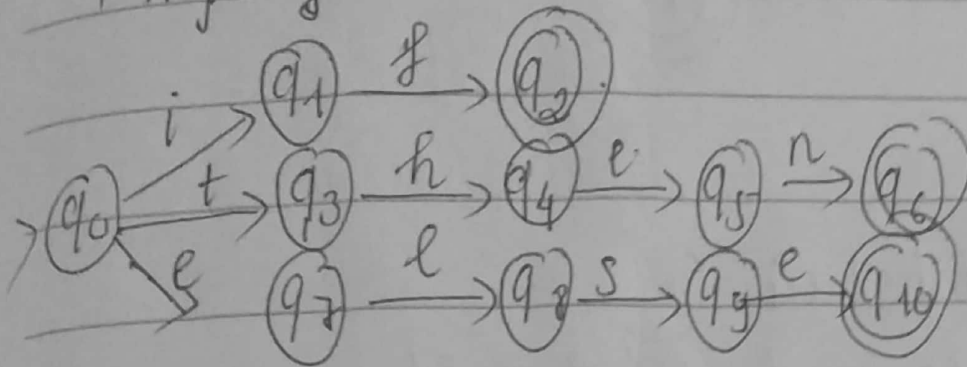$$pun = '(' + ')' + ';'$$

$$spa = (' '') + '\n' + \{ + ')^+$$

Câu 2:

$$R = key + num + ide + ope + pun + spa$$

3) Xây dựng NFA / DFA.

+ từ khóa


```
         i      q1 ---f---> (q2)
    q0 --t--> q3 ---h---> q4 ---e---> q5 ---n---> (q6)
         e            l
              q7 ---l---> q8 ---s---> q9 ---e---> (q10)
```

+ number

0/1/2/3/4/5

$$q_0 \xrightarrow{0/1/2/3/4/5} (q_1)$$

+ ide

al...|2|6/7/8/9

$$q_0 \xrightarrow{al...|2|6/7/8/9} (q_1)$$

+ ope

$$q_0 \xrightarrow{=/>/<} (q_1)$$

+ pun

$$q_0 \xrightarrow{(|)/;} (q_1)$$

" / \n/ \t

+ Spa.

" / \n/ \t

→(q₀) ————" / \n/ \t———→ ((q₁))

((qₐ))
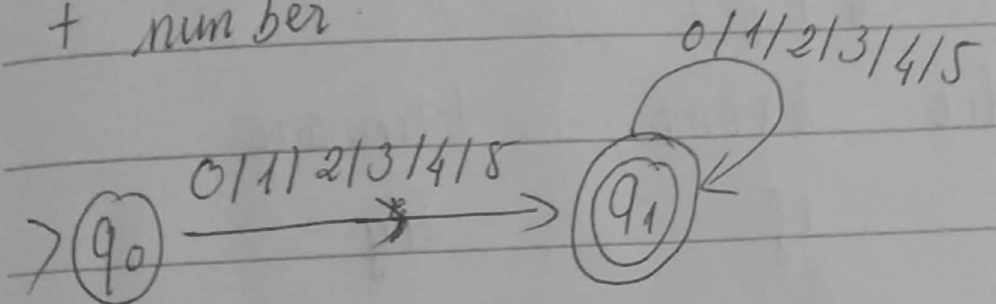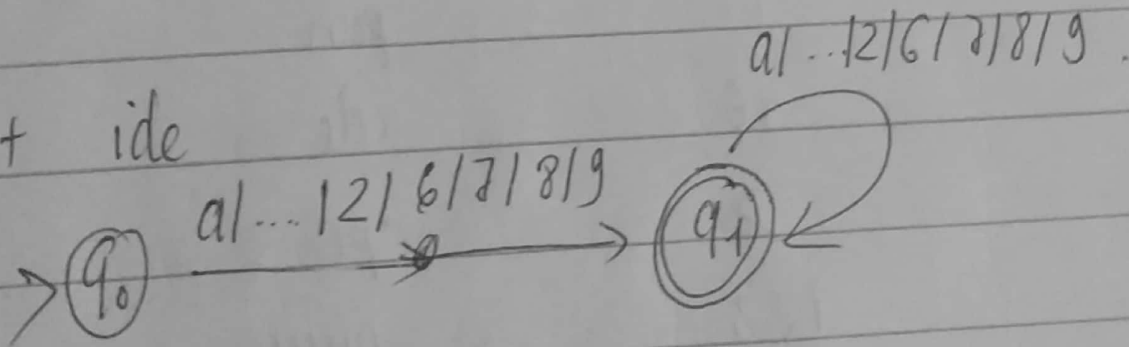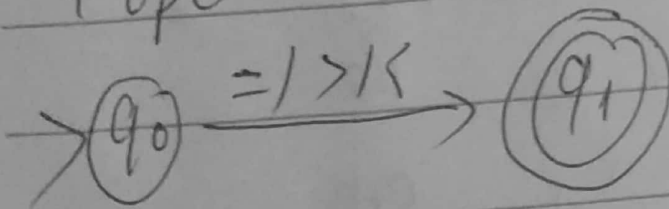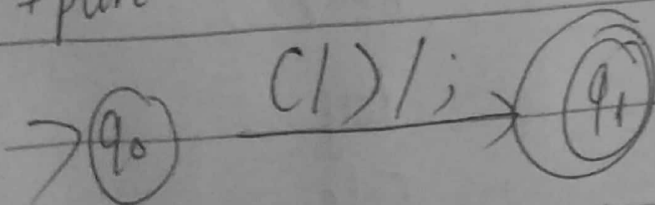
4) Bảng danh biểu: If (a6 >123) then b9 =5410; else c8 = 3412;

Attribute value	lexeme	token name
1	If	key
2	(	pun
3	a6	ide
4	>	ope
5	123	num
6	)	pun
7	' '	Spa
8	then	key.
9	" "	pun.
10	b9	ide
11	=	ope
12	5410	num.
13	"\n"	Spa.
14	else	key.
15	c1	pun
16	c8	ide.
17	=	ope.
18	3412	num.
	;	pun.

Bảng Chuỗ.	token đầu ra
lexeme (chuỗi)	token are returned
If	< key, 'If' >
(	< pun, '(' >
a6	< ide, 'a6' >
>	< ope, '>' >
123	< num, '123' >
)	< pun, ')' >
	< spa, ' ' >
then	< key, 'then' >
	< spa, ' ' >
bg	< ide, 'bg' >
=	< ope, '=' >
5410	< num, '5410' >
'\n'	< spa, '\n' >
else	< key, 'else' >
	< spa, ' ' >
c8	< ide, 'c8' >
=	< ope, '=' >
3412	< num, '3412' >
;	< pun, ';' >