

Problem 1

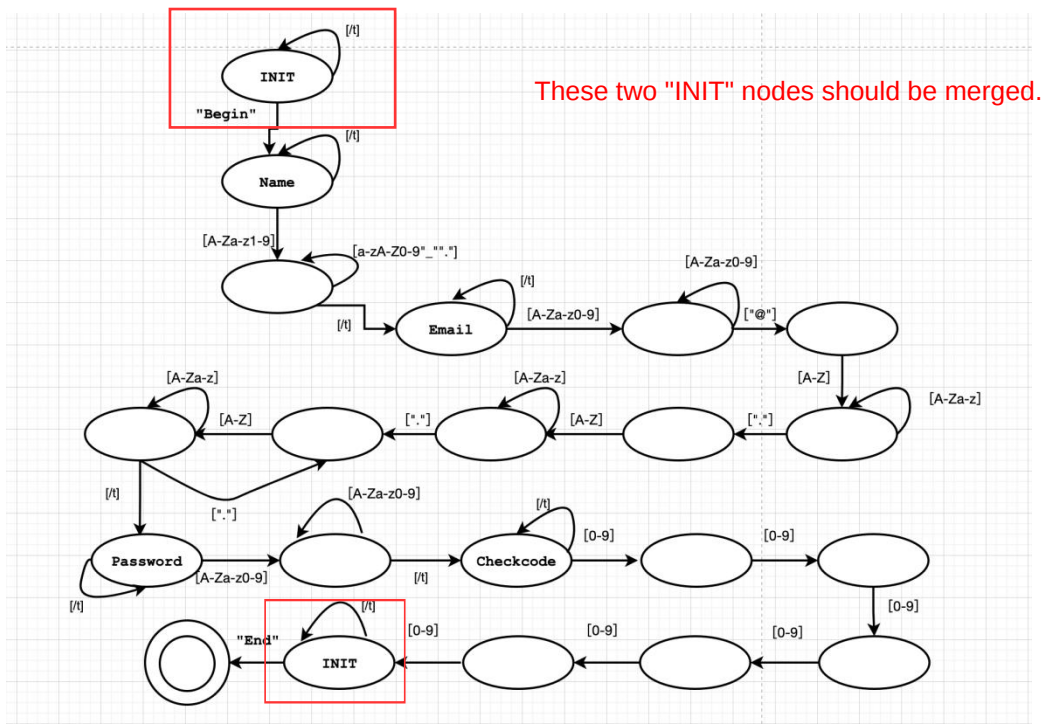
1. 1.1 [A-Za-z1-9][a-zA-Z0-9_'"']*
 1.2 [a-zA-Z0-9]+"@[A-Z][A-Za-z]*"."[A-Z][A-Za-z]*"."[A-Z][A-Za-z]* (".[A-Z][A-Za-z]*)*
 1.3 [A-Za-z0-9]+
 1.4 [0-9][0-9][0-9][0-9][0-9][0-9]

2.

Begin:
 Next:
 name:compiler
 Next:
 Email:compiler@Sjtu.Edu.Cn
 Next:
 Password:compiler
 Next:
 Checkcode:654321
 Next:
 End!

Begin:
 Next:
 name:compiler
 Next:
 Invalid Email!

3.



2. No conflict.

	a	/	=	(	)	\$	S	E	F	V
0						Accept				
1		S4		S2			G0	G20		
2					S3					
3						R3				
4			S8	S10					G6	G5
5						R2				
6	S7									
7						R4				
8		S13		S21				G9		
9	R6									
10	S11									
11					S12					
12						R5				
13	R7		S8	S17					G15	G14
14	R2									
15	S16									
16	R4									
17	S18									
18					S19					
19	R5									
20						R1				
21					S22					
22	R3									

注：标号不扣分

3.

Stack	Action
1/4	Shift
1/4=8	Shift
1/4=8/13	Shift
1/4=8/13=8	Shift
1/4=8/13=8/13	Shift
1/4=8/13=8/13 (17	Shift
1/4=8/13=8/13 (17a18	Shift
1/4=8/13=8/13 (17a18) 19	Shift
1/4=8/13=8/13V14	Reduce rule 5
1/4=8/13=8E9	Reduce rule 2
1/4=8/13F15	Reduce rule 6
1/4=8/13F15a16	Shift

$1/4=8/13V_{14}$	Reduce rule 4
$1/4=8E_9$	Reduce rule 2
$1/4F_6$	Reduce rule 6
$1/4F_6a_7$	Shift
$1/4V_5$	Reduce rule 4
$1E_{20}$	Reduce rule 2
$1S_0$	Reduce rule 1
	Accept

Problem 3

1.

$$E_0 = \{a \rightarrow int, b \rightarrow int\}$$

$$E_1 = E_0 + \{res \rightarrow int\}$$

$$E_2 = E_1 + \{x \rightarrow int, y \rightarrow int\}$$

$$E_3 = E_2 + \{flag \rightarrow int\}$$

$$E_4 = E_1$$

$$E_5 = E_1 + \{tmp \rightarrow string\}$$

$$E_6 = E_1$$

$$E_7 = E_1 + \{i \rightarrow int\}$$

$$E_8 = E_1$$

注: E4、E6、E8 不写不扣分。

2.

2: E0

5: E2

7-9: E3

12: E1 / E4

16-18: E5

22: E7

24: E1/E8