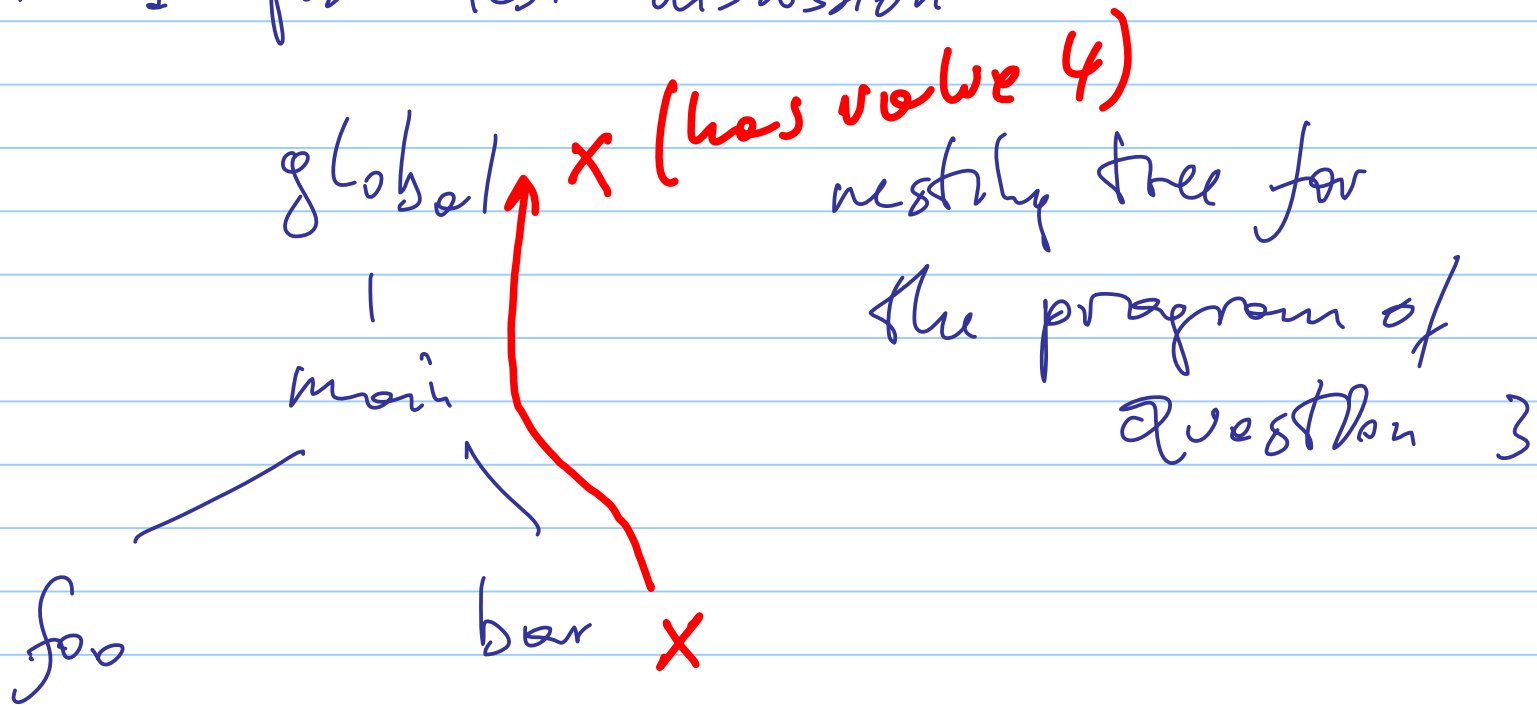


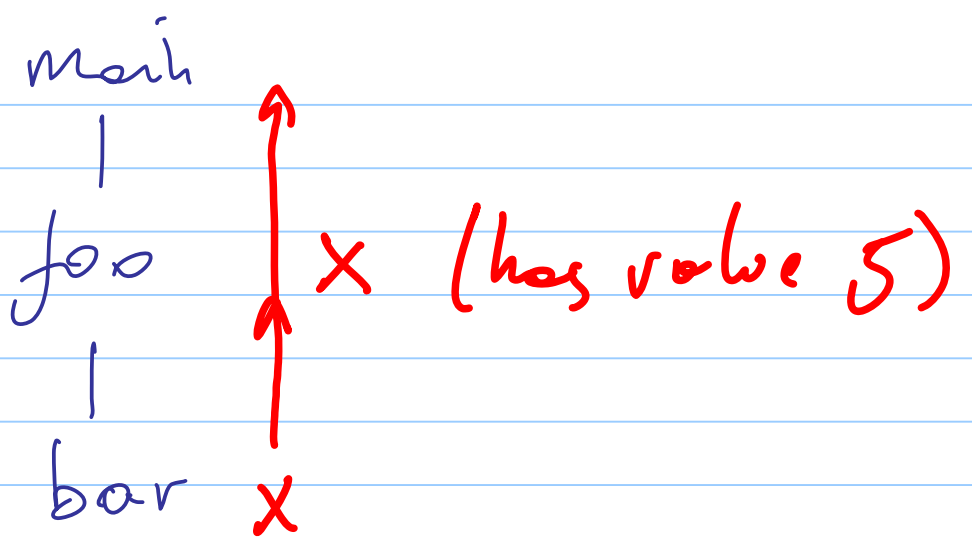
531 2013-02-28

Note Title

2013-02-28

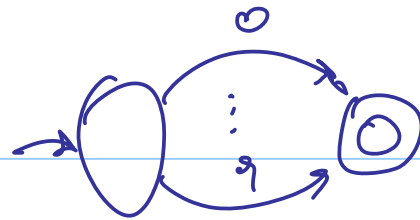
MT1 post-test discussion





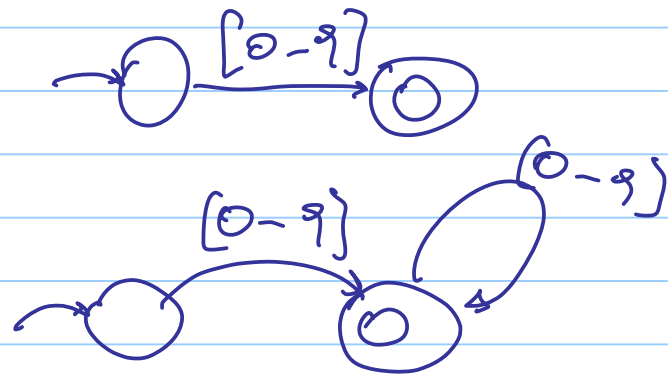
digit

$[0-9]$
(0|1|2|3|4|5|6|7|8|9)



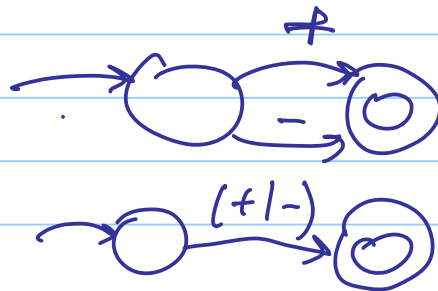
integer

$[0-9][0-9]^*$
 $[0-9]^+$



sign

$(+|-)$



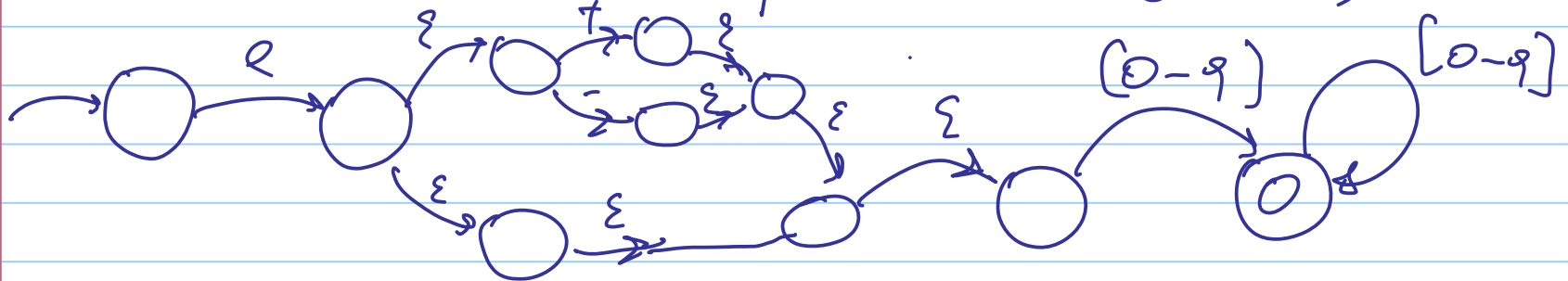


exponent $e(+|-|\epsilon)[0-9][0-9]^*$

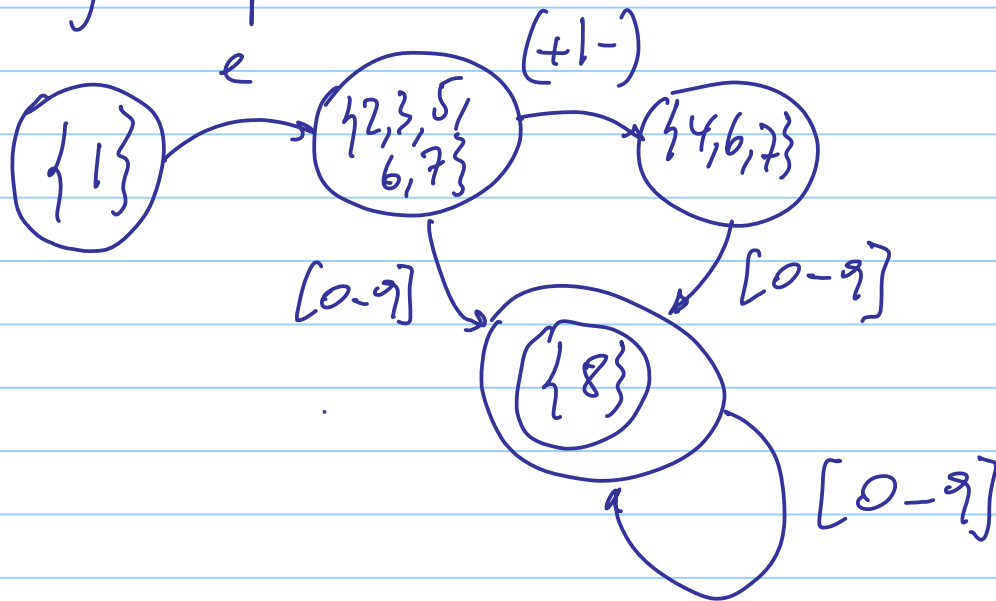
$e(+|-|\epsilon)[0-9]^+$

$e(+|-)?[0-9]^+$

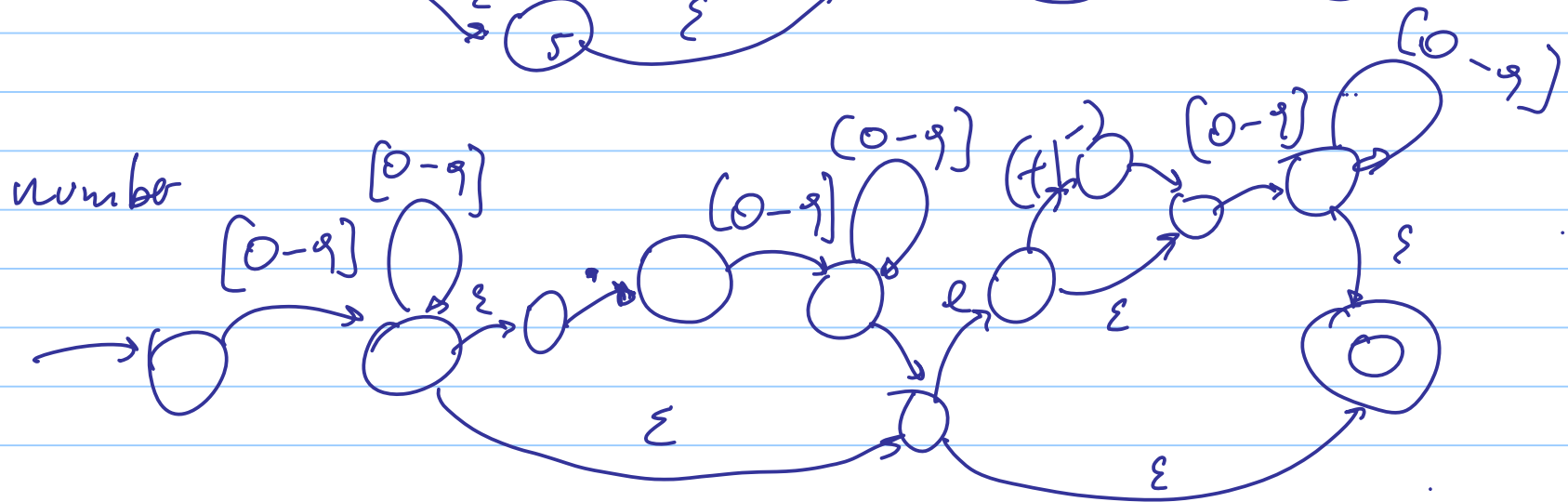
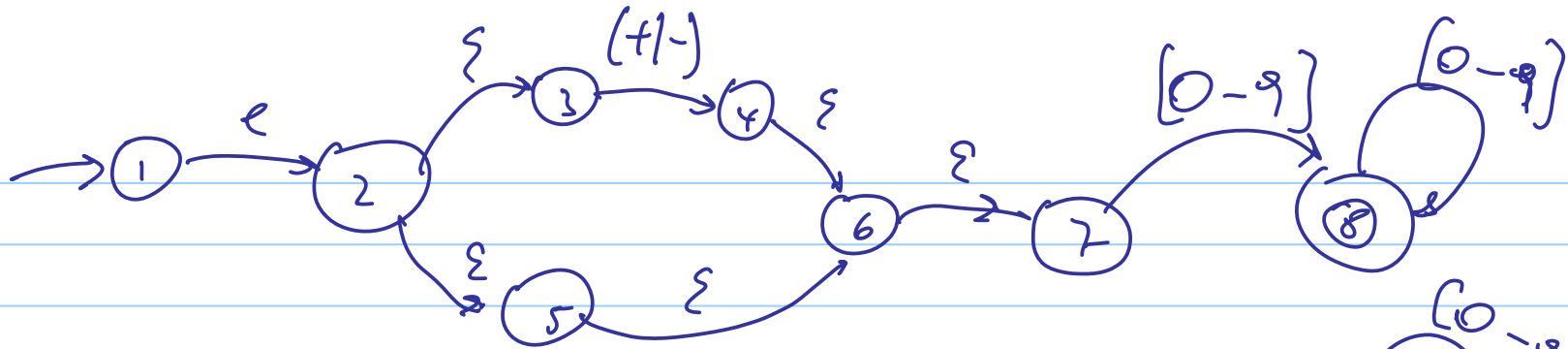
Recall, $t?$ is defined as $(t|\epsilon)$



DFA for exponent



(Minimization not required, but this seems (sorry!) minimal)



$$[0-9][0-9]^* (\epsilon | [0-9][0-9]^*) (\epsilon | \epsilon (+|-) | \epsilon) [0-9][0-9]^*$$

Question 5(a) (Parsing)

$\langle \text{var-decls} \rangle ::= \text{var } \langle \text{decl-list} \rangle$

$\langle \text{decl-list} \rangle ::= \langle \text{decl} \rangle (; \langle \text{decl} \rangle)^*$ (elimination of left recursion)

$\langle \text{decl} \rangle ::= \langle \text{id-list} \rangle : \text{id}$

$\langle \text{id-list} \rangle ::= \text{id } (, \text{id})^*$ //

Question 5(b)


```
private void parseVarDecl() {
```

```
    if (currentToken.kind == Token.VAR) { accept(); }
```

```
        else report error // pseudocode
```

```
        parseDeclList();
```

```
    }
```

```
private void parseDeclList() {
```

```
    parseDecl();
```

```
while (currentToken.kind == Token.SEMICOLON) {
```

```
    acceptIt();
```

```
    parseDecl();
```

```
    }
```

```
}
```