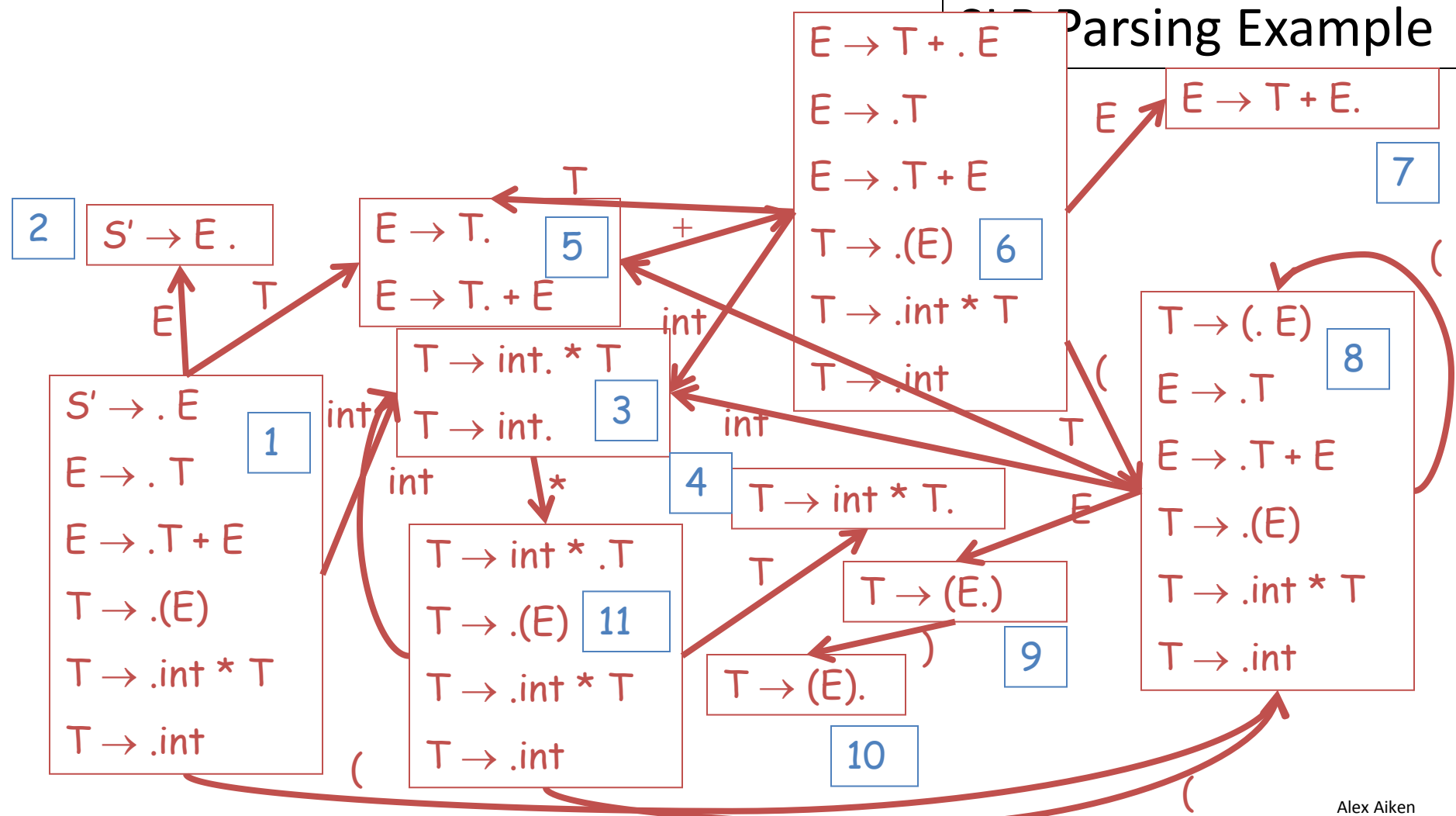




Compilers

SLR Parsing Example

Parsing Example



SLR Parsing Example

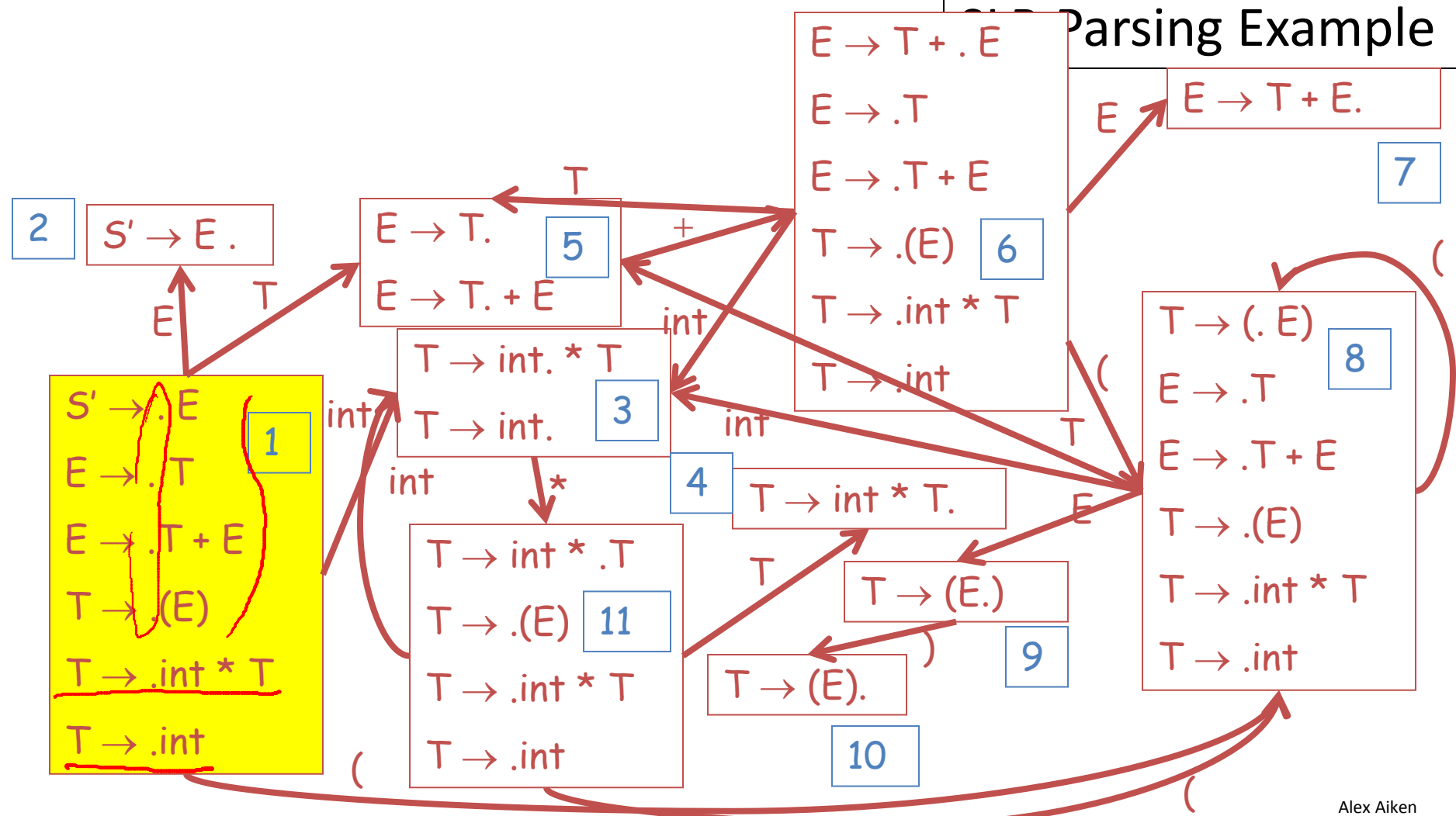
Configuration

DFA Halt State

Action

| int * int \$

Parsing Example



SLR Parsing Example

Configuration

DFA Halt State

Action

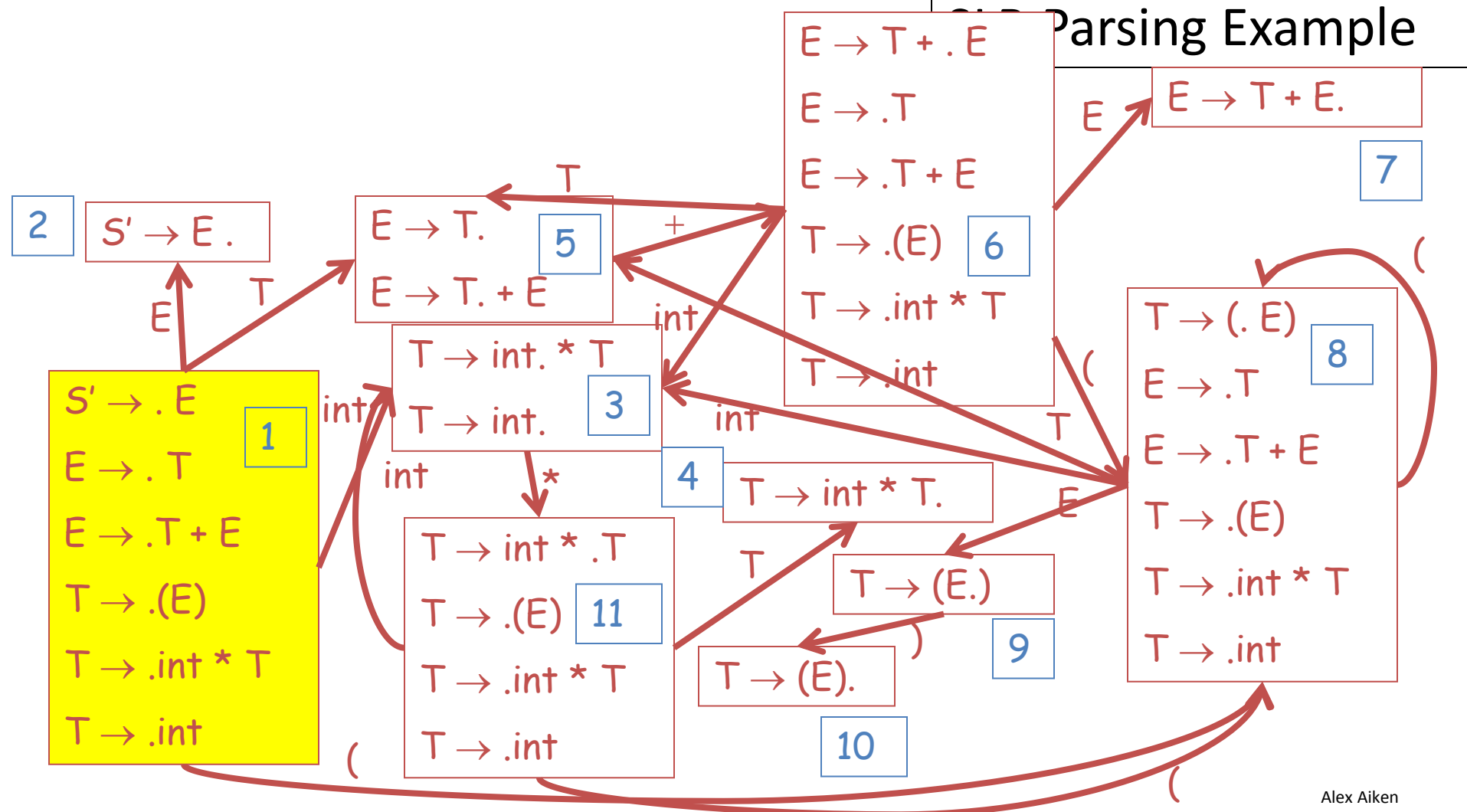
| int * int\$

1

shift

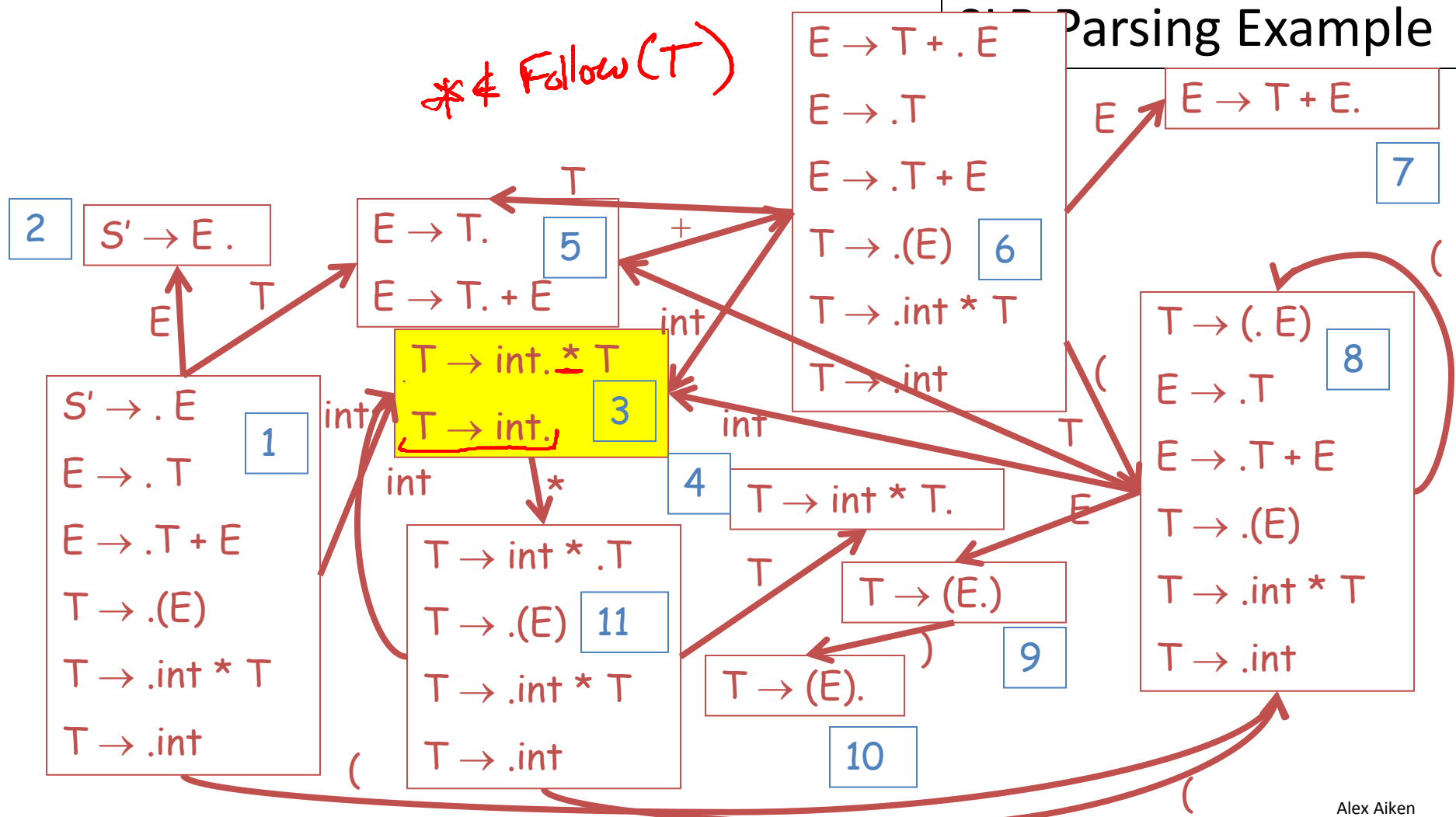
int | * int\$

Parsing Example



Parsing Example

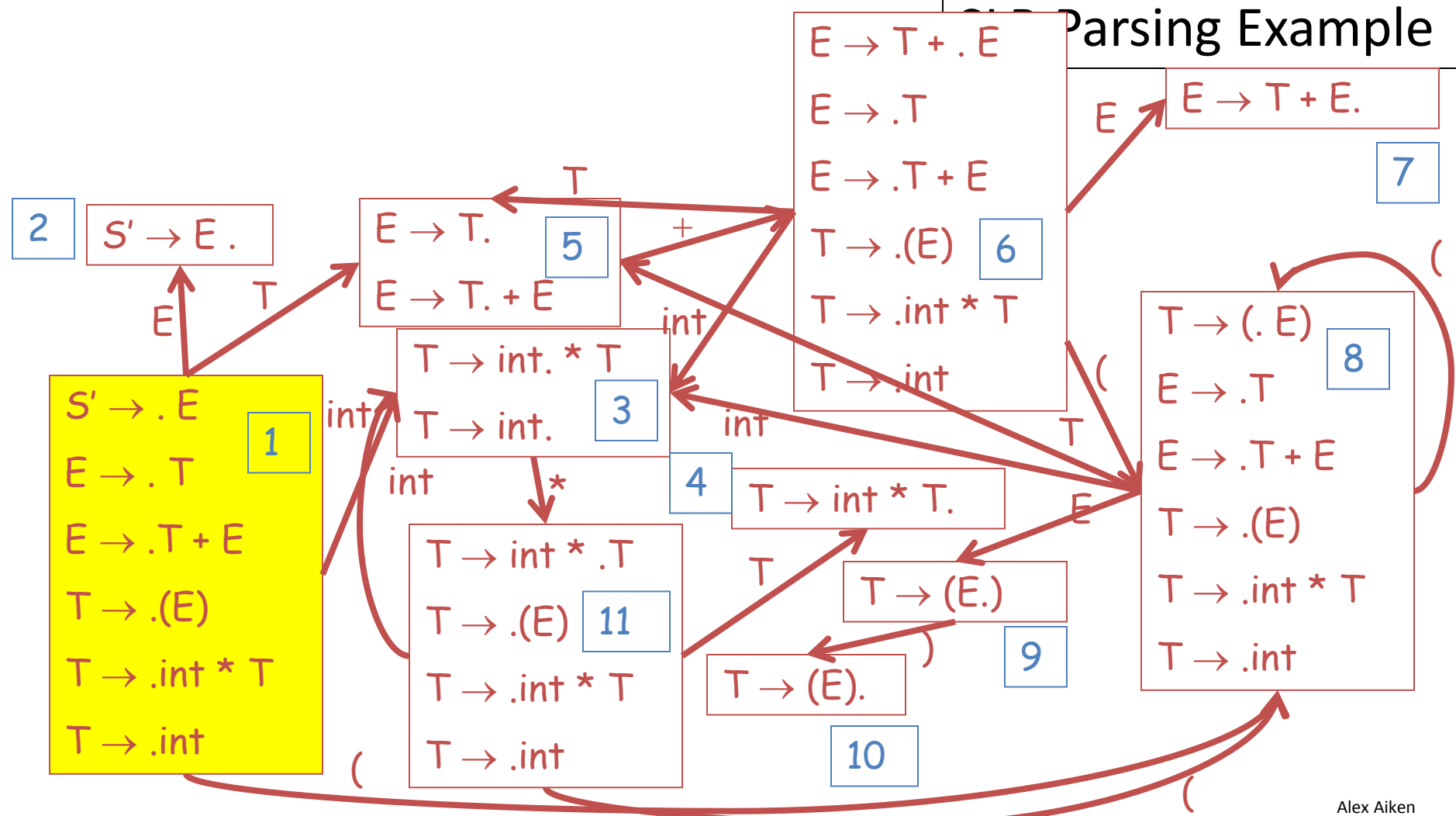
* Follow(T)



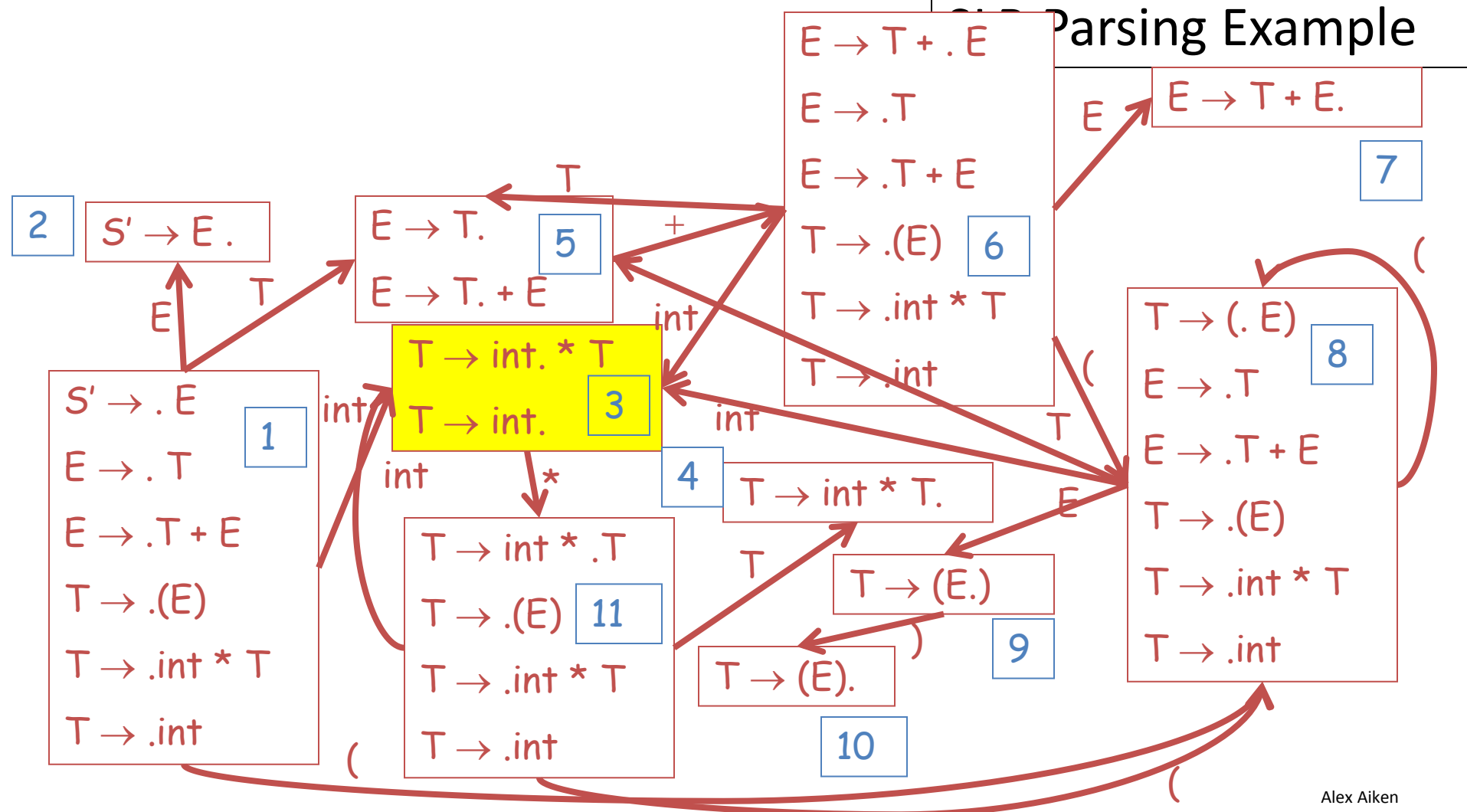
SLR Parsing Example

| <i>Configuration</i> | <i>DFA Halt State</i> | <i>Action</i> |
|----------------------|-----------------------------|---------------|
| int * int\$ | 1 | shift |
| int * int\$ | <u>3</u> * not in Follow(T) | <u>shift</u> |
| <u>int</u> * int\$ | | |

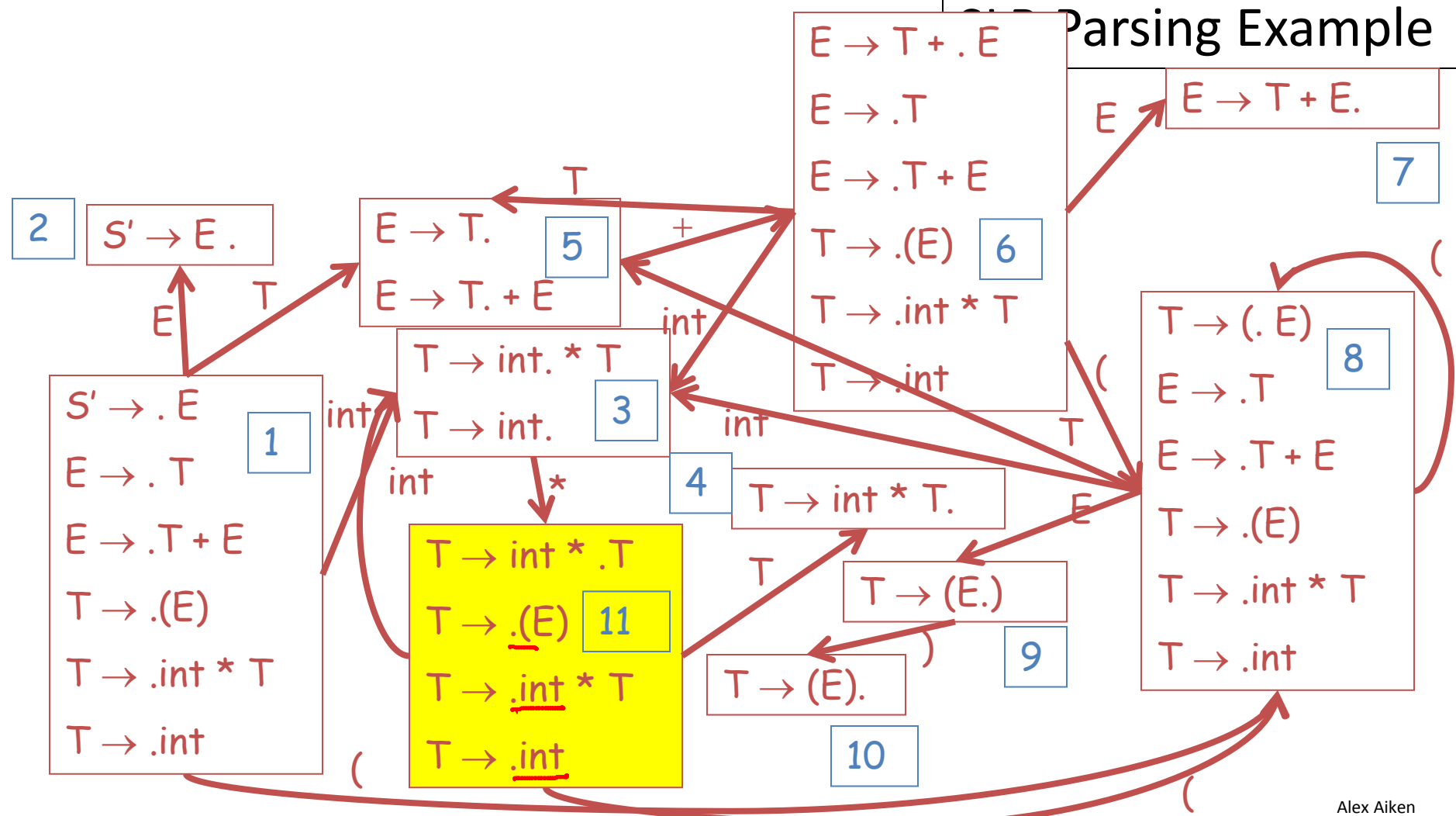
Parsing Example



Parsing Example



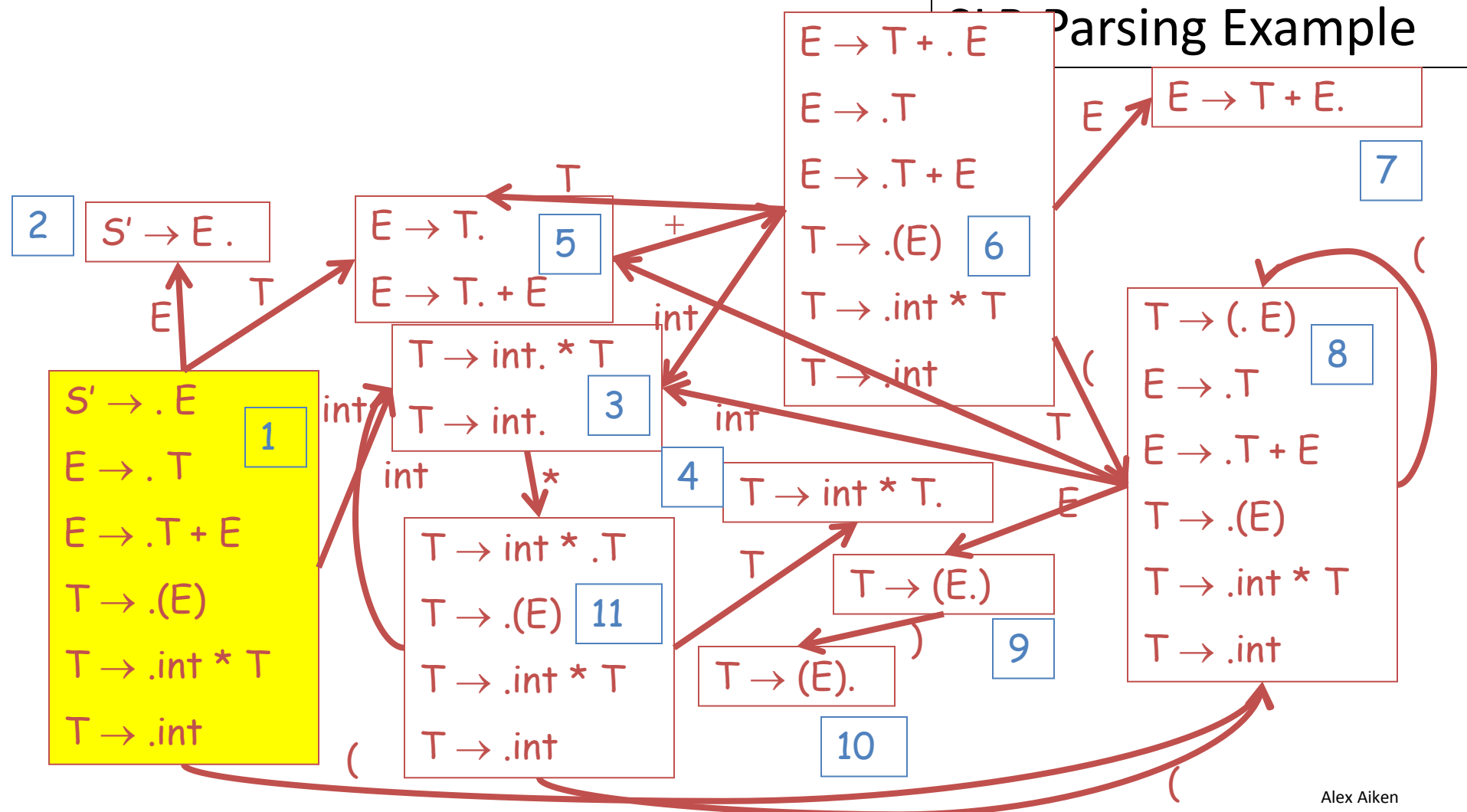
Parsing Example



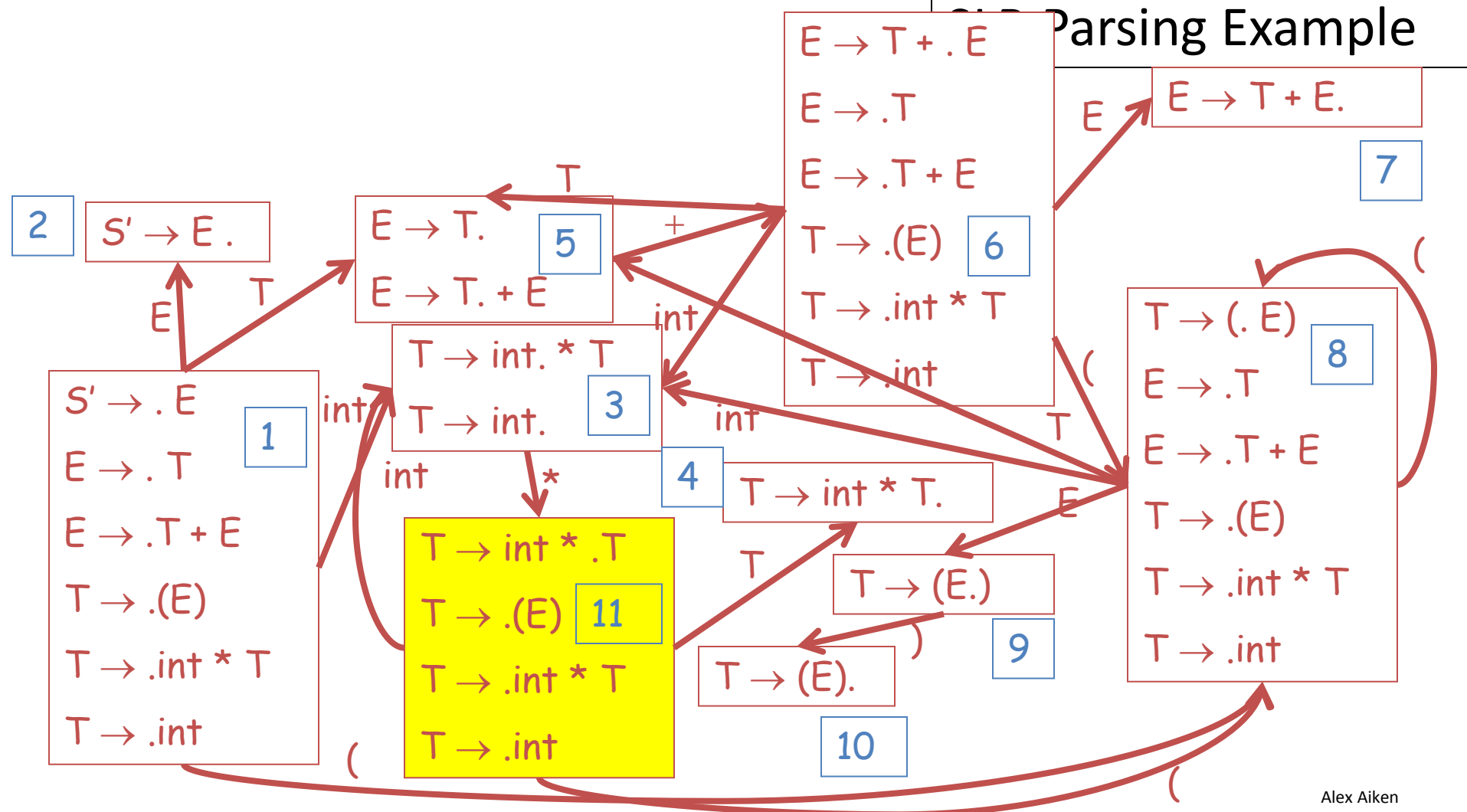
SLR Parsing Example

| <i>Configuration</i> | <i>DFA Halt State</i> | <i>Action</i> |
|------------------------------|-----------------------|---------------|
| int * int \$ | 1 | shift |
| int * int \$ | 3 * not in Follow(T) | shift |
| int * int \$ | <u>11</u> | <u>shift</u> |
| <u>int * int </u> <u>\$</u> | | |

Parsing Example

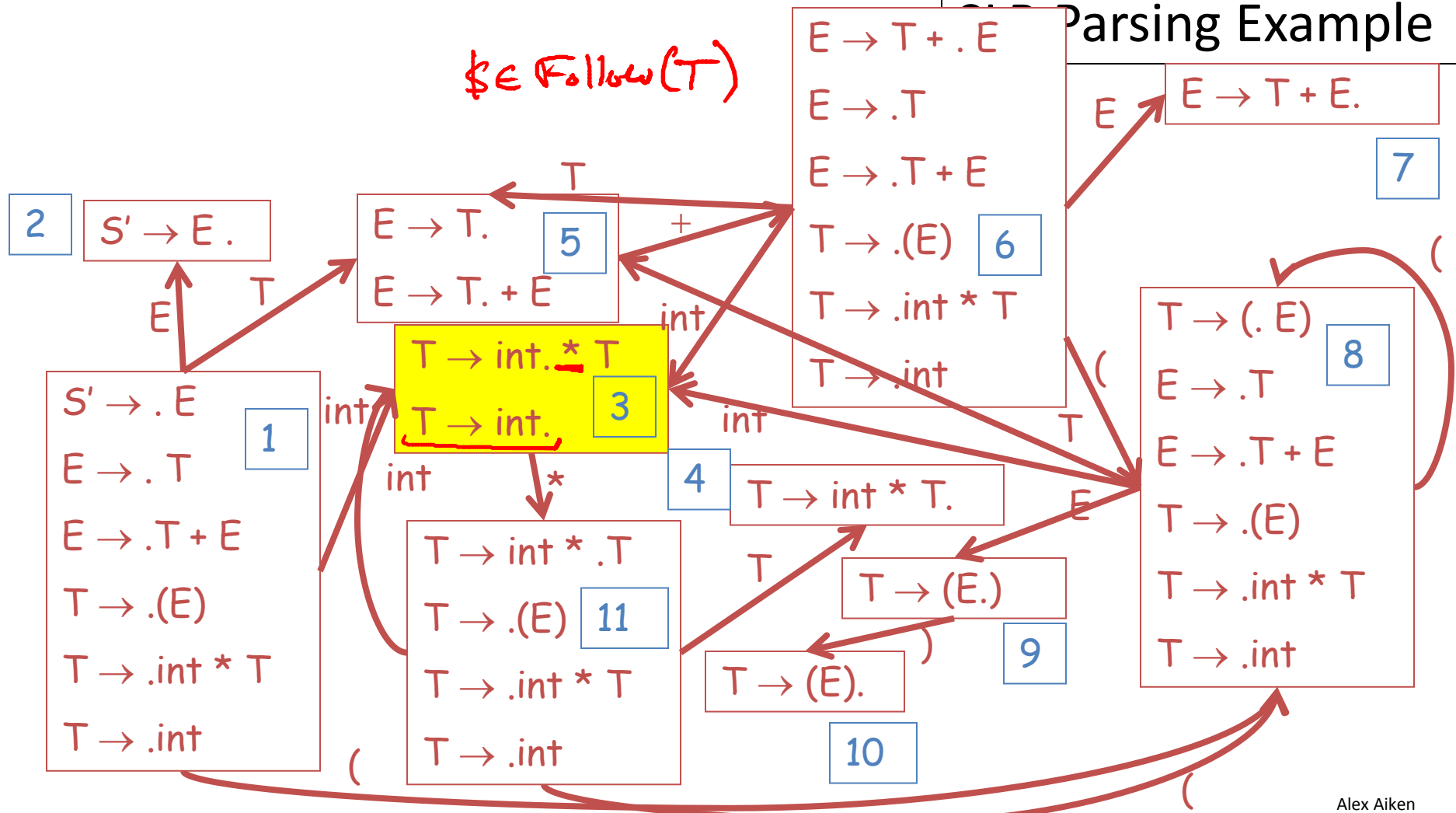


Parsing Example



Parsing Example

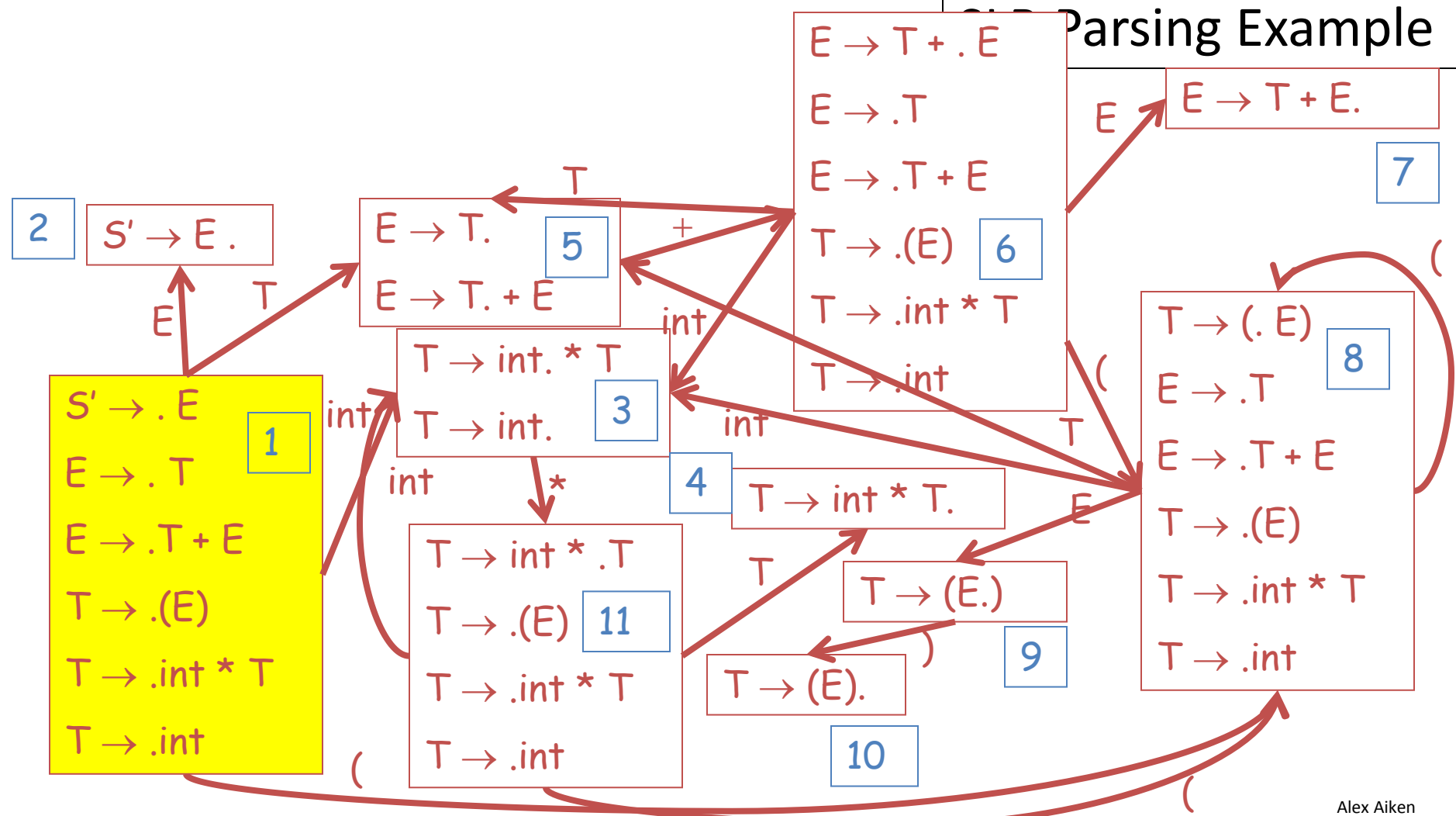
$\$ \in \text{Follow}(T)$



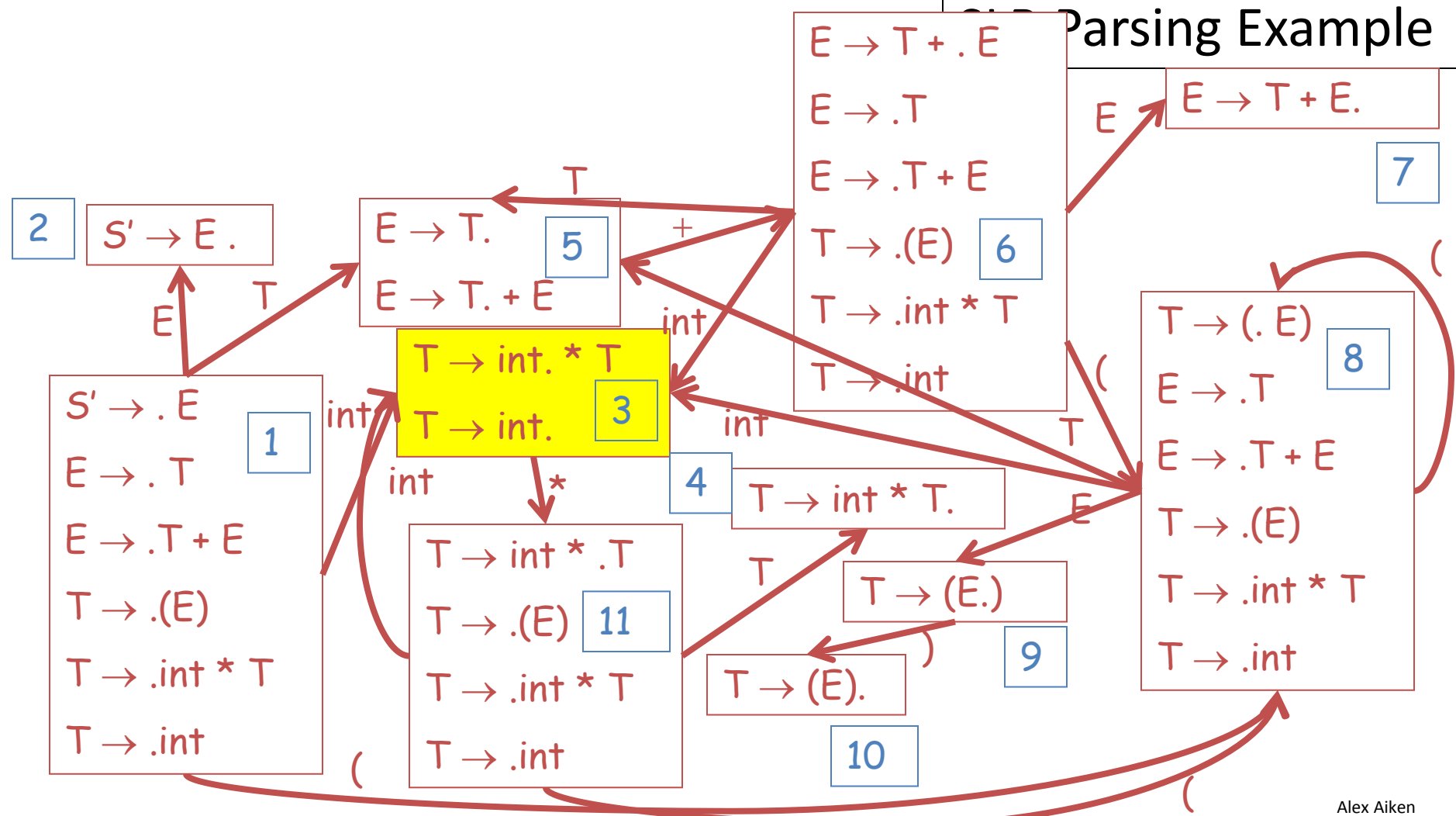
SLR Parsing Example

| <i>Configuration</i> | <i>DFA Halt State</i> | <i>Action</i> |
|----------------------------|-----------------------|---------------------|
| int * int \$ | 1 | shift |
| int * int \$ | 3 * not in Follow(T) | shift |
| int * int \$ | 11 | shift |
| int * int \$ | 3 \$ ∈ Follow(T) | <u>red. T → int</u> |
| <u>int * T</u> <u>\$</u> | | |

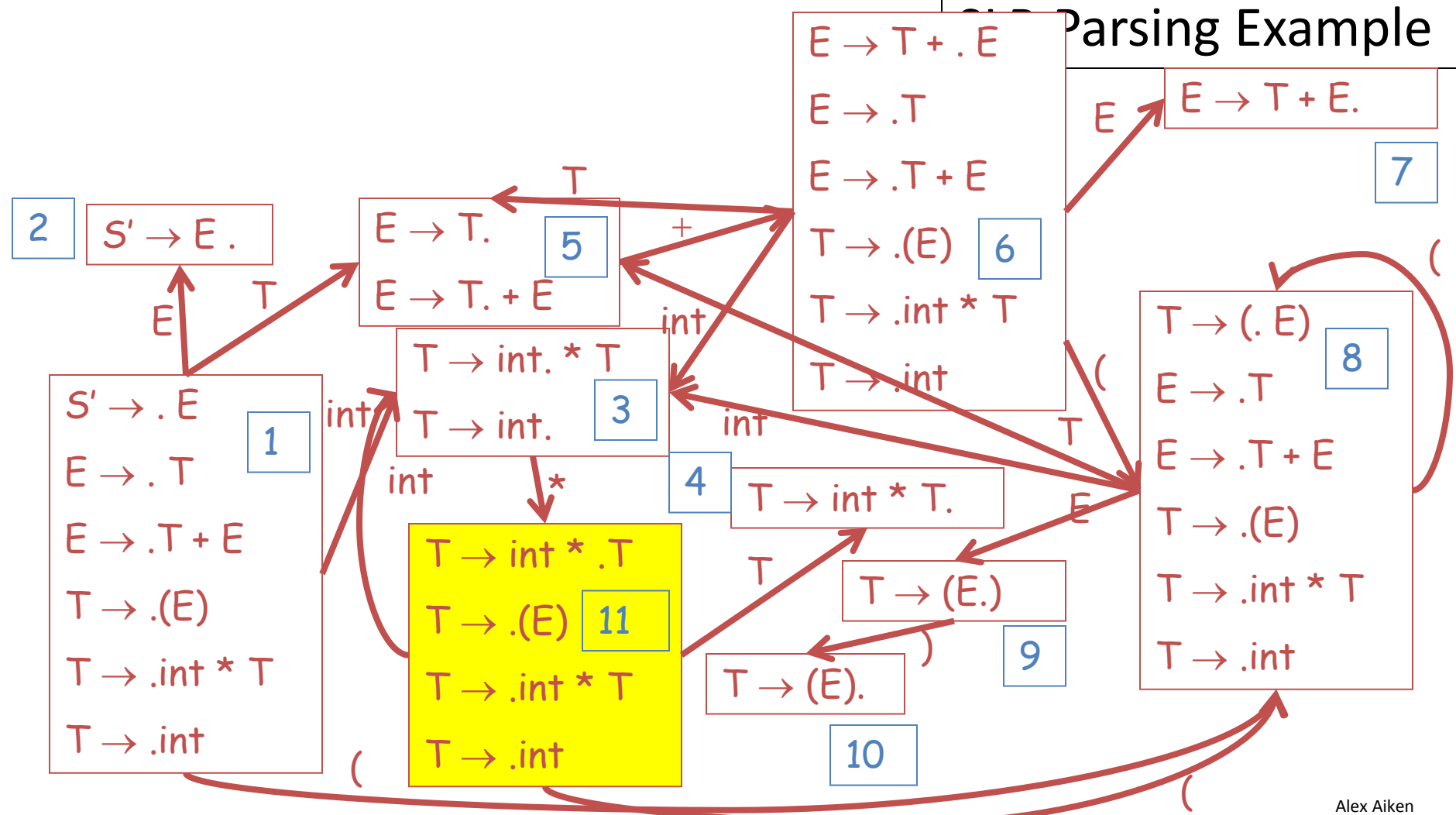
Parsing Example



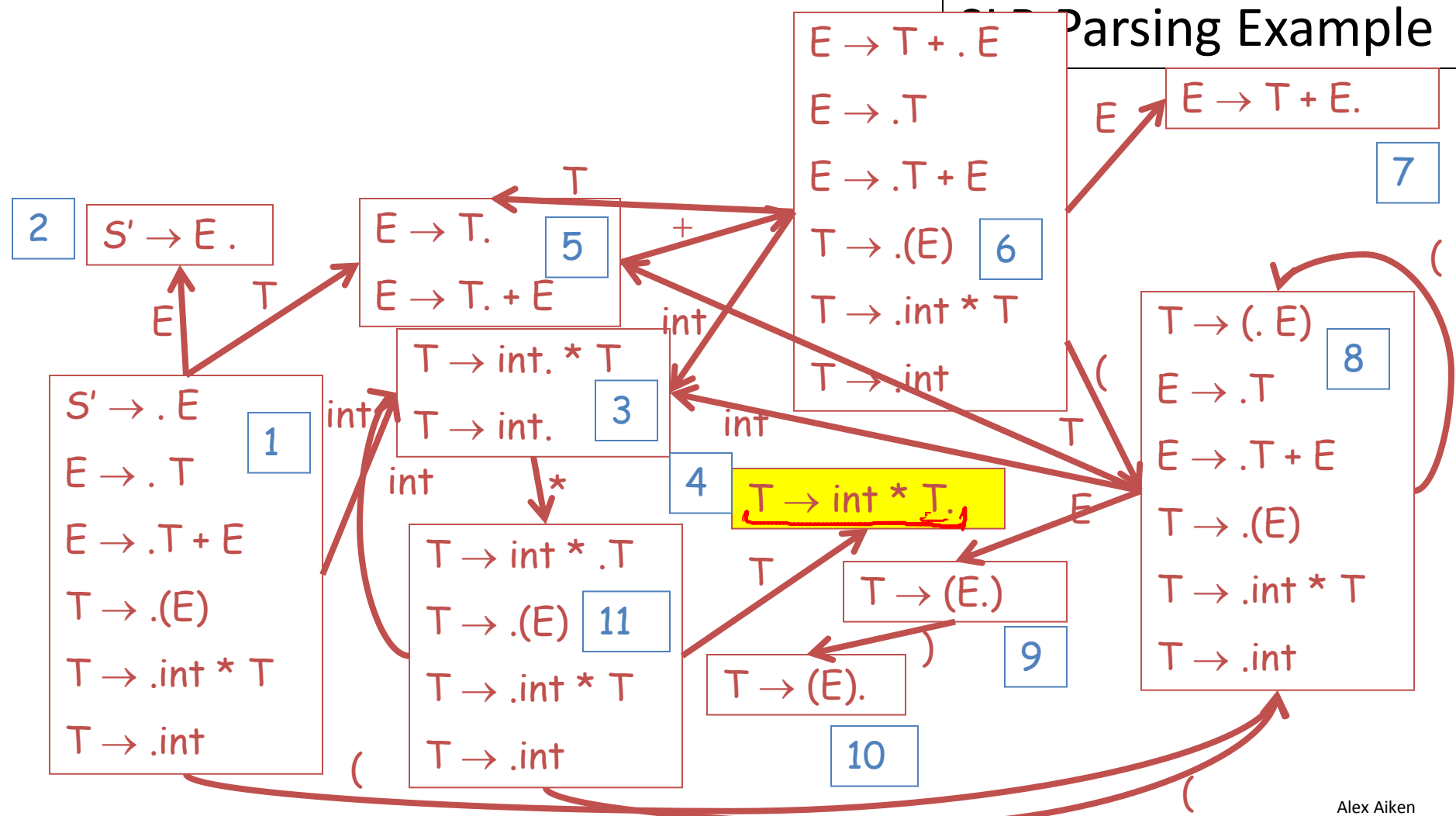
Parsing Example



Parsing Example



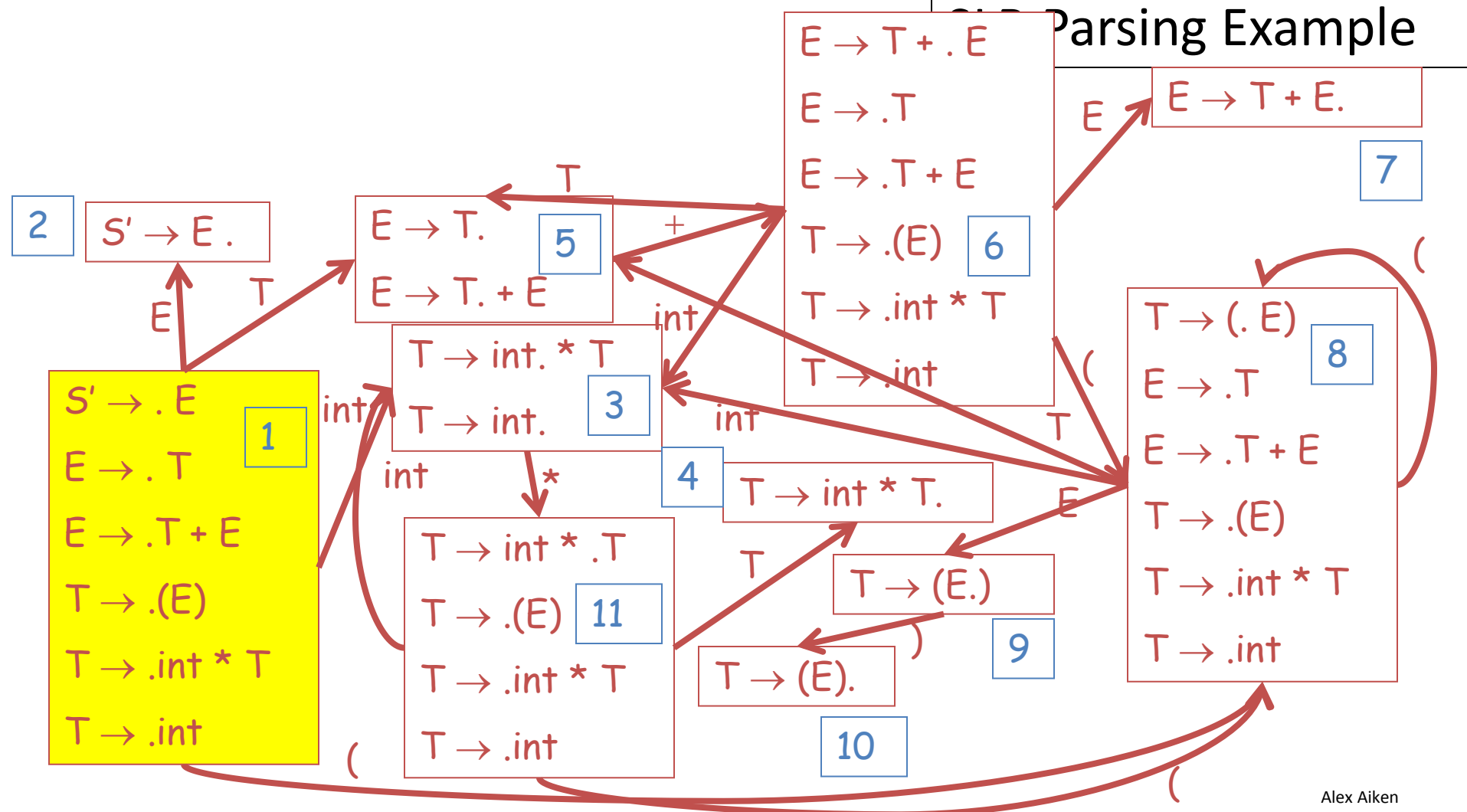
Parsing Example



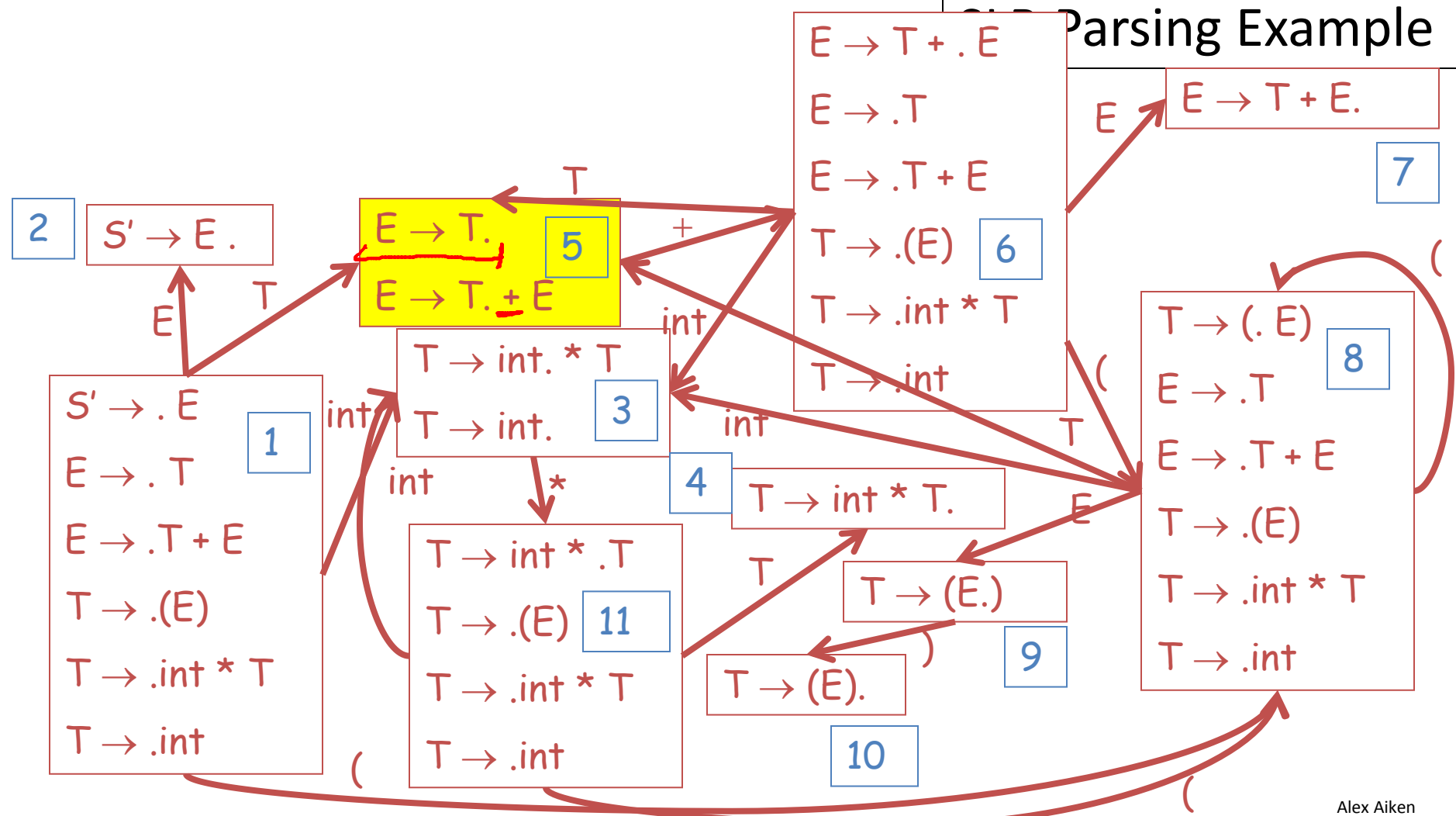
SLR Parsing Example

| <i>Configuration</i> | <i>DFA Halt State</i> | <i>Action</i> |
|----------------------|-----------------------|------------------|
| int * int \$ | 1 | shift |
| int * int \$ | 3 * not in Follow(T) | shift |
| int * int \$ | 11 | shift |
| int * int \$ | 3 \$ ∈ Follow(T) | red. T → int |
| int * T \$ | 4 \$ ∈ Follow(T) | red. T → int * T |
| <u>T</u> <u>\$</u> | | |

Parsing Example



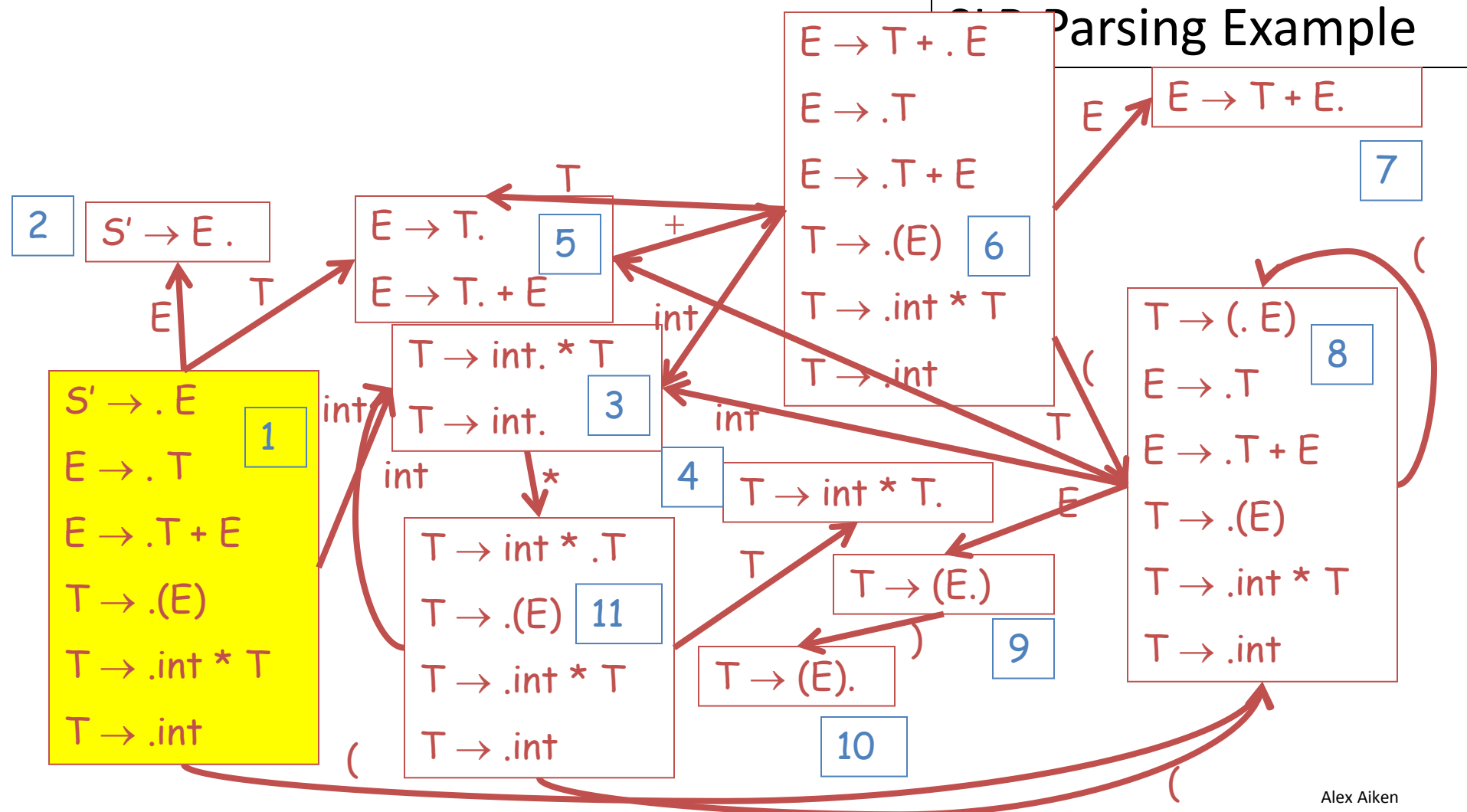
Parsing Example



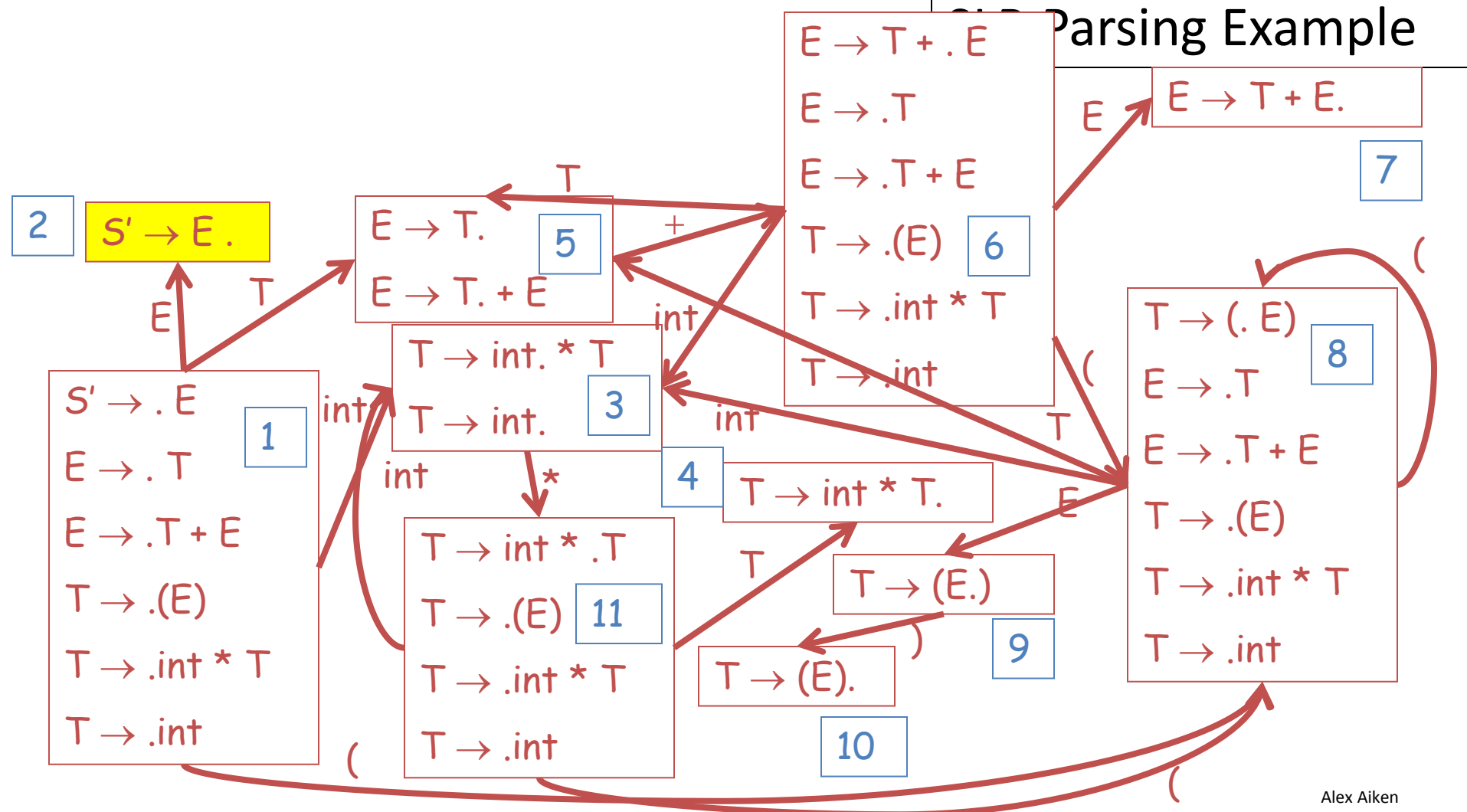
SLR Parsing Example

| <i>Configuration</i> | <i>DFA Halt State</i> | <i>Action</i> |
|----------------------|-----------------------|-------------------------------------|
| int * int \$ | 1 | shift |
| int * int \$ | 3 * not in Follow(T) | shift |
| int * int \$ | 11 | shift |
| int * int \$ | 3 \$ ∈ Follow(T) | red. $T \rightarrow \text{int}$ |
| int * T \$ | 4 \$ ∈ Follow(T) | red. $T \rightarrow \text{int} * T$ |
| T \$ | 5 \$ ∈ Follow(E) | red. $E \rightarrow T$ |
| <u>E</u> \$ | | |

Parsing Example



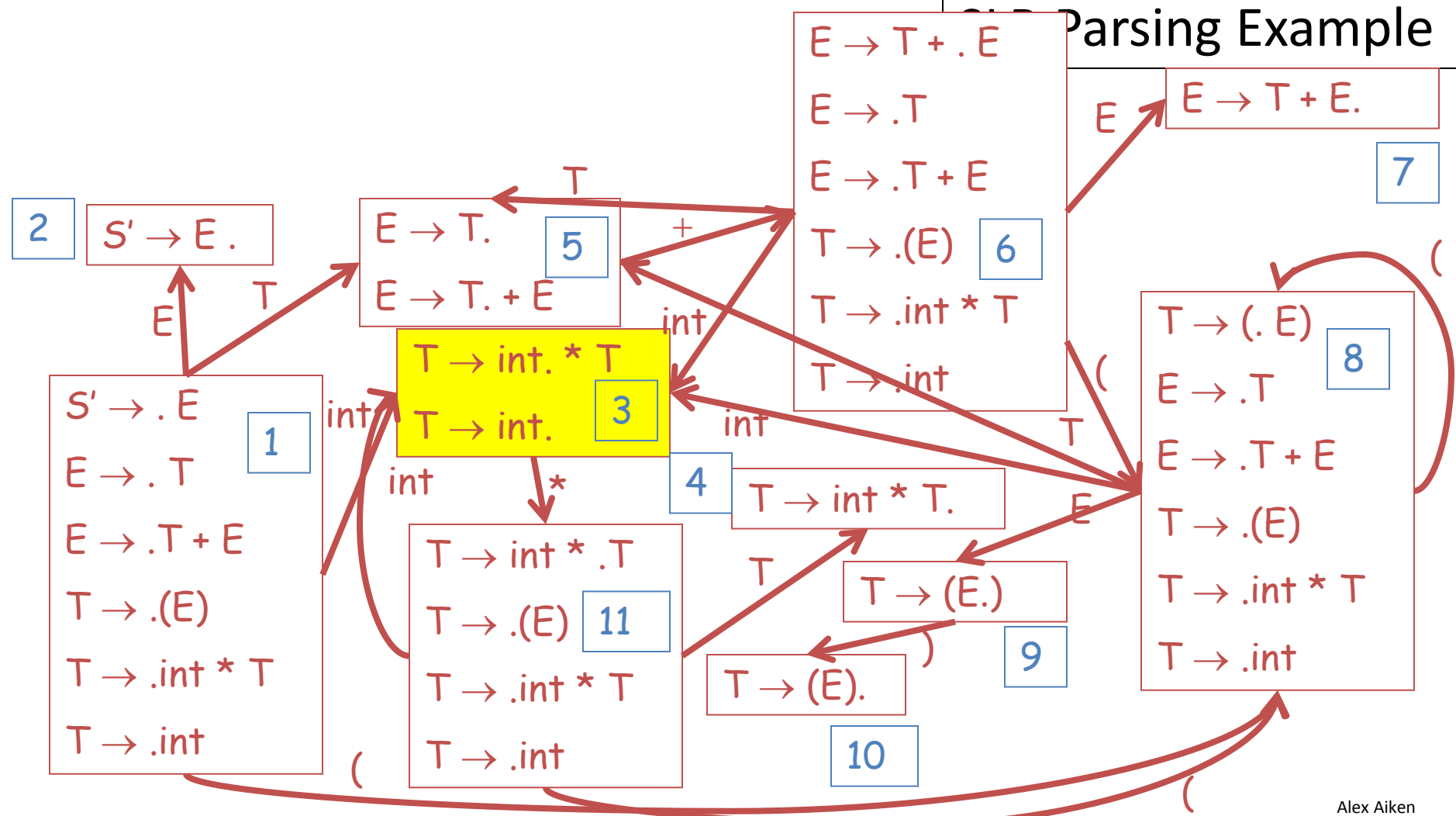
Parsing Example



SLR Parsing Example

| <i>Configuration</i> | <i>DFA Halt State</i> | <i>Action</i> |
|----------------------|-----------------------|-------------------------------------|
| int * int\$ | 1 | shift |
| int * int\$ | 3 * not in Follow(T) | shift |
| int * int\$ | 11 | shift |
| int * int \$ | 3 \$ ∈ Follow(T) | red. $T \rightarrow \text{int}$ |
| int * T \$ | 4 \$ ∈ Follow(T) | red. $T \rightarrow \text{int} * T$ |
| T \$ | 5 \$ ∈ Follow(T) | red. $E \rightarrow T$ |
| E \$ | | <u>accept</u> |

Parsing Example



Using the DFA on the previous slide, choose the next action for the given parse state

| <i>Configuration</i> | <i>DFA Halt State</i> |
|---|-----------------------|
| $\text{int} * \text{int} + \text{int} \$$ | 3 |

- ☐ shift
- ☐ red. $T \rightarrow \text{int}$
- ☐ red. $T \rightarrow \text{int} * T$
- ☐ accept

To show the
automaton, click
“Hide Question”

