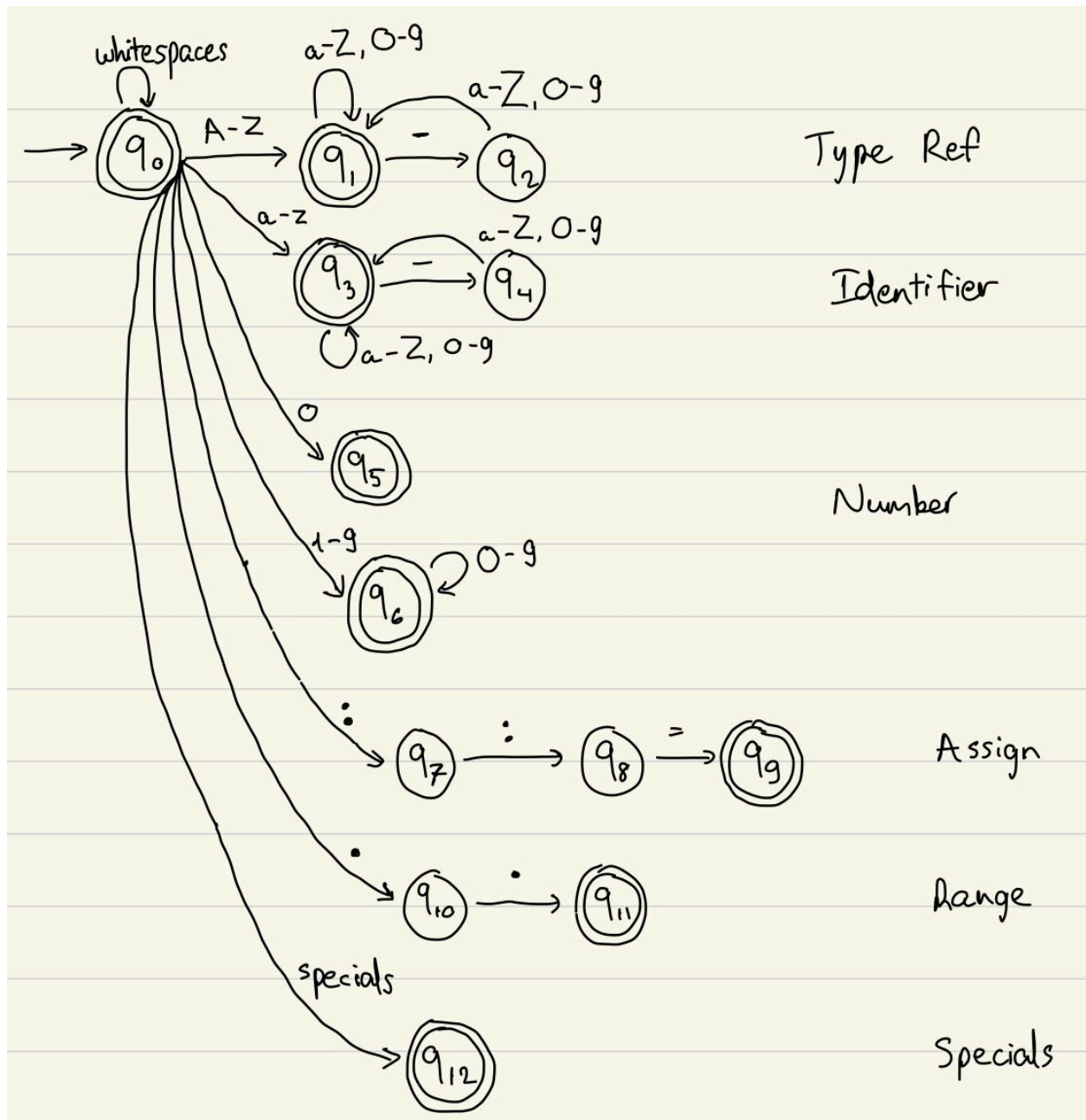


# Report

I use a partial DFA for recognizing this assignment. A partial DFA meaning inside my code, I don't explicitly declare every possible transition in each state. If a transition on a certain value is invalid, that transition is technically hidden away from my code.

## Simple DFA model



One thing to note is that any final states can lead to state  $q_0$  on whitespaces also. I don't demonstrate that on the DFA picture here since I want it to look clean.

# Results

## Error

```
› java lexer.java ./original-input.txt
Token: [MyShopPurchaseOrders] --> [TypeRef]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [TAGS] --> [RESERVED - TAGS]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [:=] --> [ASSIGN]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [BEGIN] --> [RESERVED - BEGIN]
Token: [
] --> [LINE FEED]
Token: [
] --> [LINE FEED]
Token: [PurchaseOrder] --> [TypeRef]
Token: [ ] --> [SPACE]
Token: [:=] --> [ASSIGN]
Token: [ ] --> [SPACE]
Token: [SEQUENCE] --> [RESERVED - SEQUENCE]
Token: [ ] --> [SPACE]
Token: [{] --> [LCURLY]
Token: [
] --> [LINE FEED]
Token: [dateOfOrder] --> [Identifier]
Token: [ ] --> [SPACE]
Token: [DATE,] --> Invalid
Result: false
```

## Success

Token: [MyShopPurchaseOrders] --> [TypeRef]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [TAGS] --> [RESERVED - TAGS]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [::=] --> [ASSIGN]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [BEGIN] --> [RESERVED - BEGIN]  
Token: [  
] --> [LINE FEED]  
Token: [  
] --> [LINE FEED]  
Token: [PurchaseOrder] --> [TypeRef]  
Token: [ ] --> [SPACE]  
Token: [::=] --> [ASSIGN]  
Token: [ ] --> [SPACE]  
Token: [SEQUENCE] --> [RESERVED - SEQUENCE]  
Token: [ ] --> [SPACE]  
Token: [{] --> [LCURLY]  
Token: [  
] --> [LINE FEED]  
Token: [dateOfOrder] --> [Identifier]  
Token: [ ] --> [SPACE]  
Token: [DATE] --> [RESERVED - DATE]  
Token: [ ] --> [SPACE]  
Token: [,] --> [COMMA]  
Token: [  
] --> [LINE FEED]  
Token: [customer] --> [Identifier]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [CustomerInfo] --> [TypeRef]  
Token: [ ] --> [SPACE]  
Token: [,] --> [COMMA]  
Token: [  
] --> [LINE FEED]

```
] --> [LINE FEED]
Token: [items] --> [Identifier]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ListOfItems] --> [TypeRef]
Token: [
] --> [LINE FEED]
Token: [}] --> [RCURLY]
Token: [
] --> [LINE FEED]
Token: [
] --> [LINE FEED]
Token: [
] --> [LINE FEED]
Token: [Item] --> [TypeRef]
Token: [ ] --> [SPACE]
Token: [::=] --> [ASSIGN]
Token: [ ] --> [SPACE]
Token: [SEQUENCE] --> [RESERVED - SEQUENCE]
Token: [ ] --> [SPACE]
Token: [{] --> [LCURLY]
Token: [
] --> [LINE FEED]
Token: [itemCode] --> [Identifier]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [INTEGER] --> [RESERVED - INTEGER]
Token: [ ] --> [SPACE]
Token: [(] --> [LPAREN]
Token: [ ] --> [SPACE]
Token: [1] --> [Number]
Token: [ ] --> [SPACE]
Token: [..] --> [Range Separator]
```

```
Token: [ ] --> [SPACE]
Token: [99999] --> [Number]
Token: [ ] --> [SPACE]
Token: []) --> [RPAREN]
Token: [ ] --> [SPACE]
Token: [,] --> [COMMA]
Token: [
] --> [LINE FEED]
Token: [power] --> [Identifier]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [INTEGER] --> [RESERVED - INTEGER]
Token: [ ] --> [SPACE]
Token: [(] --> [LPAREN]
Token: [ ] --> [SPACE]
Token: [110] --> [Number]
Token: [ ] --> [SPACE]
Token: [[]] --> [VLIN]
Token: [ ] --> [SPACE]
Token: [220] --> [Number]
Token: [ ] --> [SPACE]
Token: []) --> [RPAREN]
Token: [ ] --> [SPACE]
Token: [,] --> [COMMA]
Token: [
] --> [LINE FEED]
Token: [deliveryTime] --> [Identifier]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [ ] --> [SPACE]
Token: [INTEGER] --> [RESERVED - INTEGER]
Token: [ ] --> [SPACE]
Token: [(] --> [LPAREN]
Token: [ ] --> [SPACE]
```

```
Token: [8] --> [Number]
Token: [] --> [SPACE]
Token: [...] --> [Range_Separator]
Token: [] --> [SPACE]
Token: [12] --> [Number]
Token: [] --> [SPACE]
Token: [] --> [VLINE]
Token: [] --> [SPACE]
Token: [14] --> [Number]
Token: [] --> [SPACE]
Token: [...] --> [Range_Separator]
Token: [] --> [SPACE]
Token: [19] --> [Number]
Token: [] --> [SPACE]
Token: []) --> [RPAREN]
Token: [] --> [SPACE]
Token: [,] --> [COMMA]
Token: [
] --> [LINE FEED]
Token: [quantity] --> [Identifier]
Token: [] --> [SPACE]
Token: [] --> [SPACE]
Token: [] --> [SPACE]
Token: [] --> [SPACE]
Token: [] --> [SPACE]
Token: [] --> [SPACE]
Token: [] --> [SPACE]
Token: [] --> [SPACE]
Token: [INTEGER] --> [RESERVED - INTEGER]
Token: [] --> [SPACE]
Token: [(] --> [LPAREN]
Token: [] --> [SPACE]
Token: [1] --> [Number]
Token: [] --> [SPACE]
Token: [...] --> [Range_Separator]
Token: [] --> [SPACE]
Token: [1000] --> [Number]
Token: [] --> [SPACE]
Token: []) --> [RPAREN]
Token: [] --> [SPACE]
Token: [,] --> [COMMA]
Token: [
] --> [LINE FEED]
Token: [unitPrice] --> [Identifier]
```

Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [ ] --> [SPACE]  
Token: [INTEGER] --> [RESERVED - INTEGER]  
Token: [ ] --> [SPACE]  
Token: [(] --> [LPAREN]  
Token: [ ] --> [SPACE]  
Token: [1] --> [Number]  
Token: [ ] --> [SPACE]  
Token: [..] --> [Range\_Separator]  
Token: [ ] --> [SPACE]  
Token: [9999] --> [Number]  
Token: [ ] --> [SPACE]  
Token: [)] --> [RPAREN]  
Token: [ ] --> [SPACE]  
Token: [,] --> [COMMA]  
Token: [  
] --> [LINE FEED]  
Token: [}] --> [RCURLY]  
Token: [  
] --> [LINE FEED]  
Token: [END] --> [RESERVED - END]  
Result: true