

$$\text{tq} :$$

A Comprehensive Disciplinary Language for Materials Science

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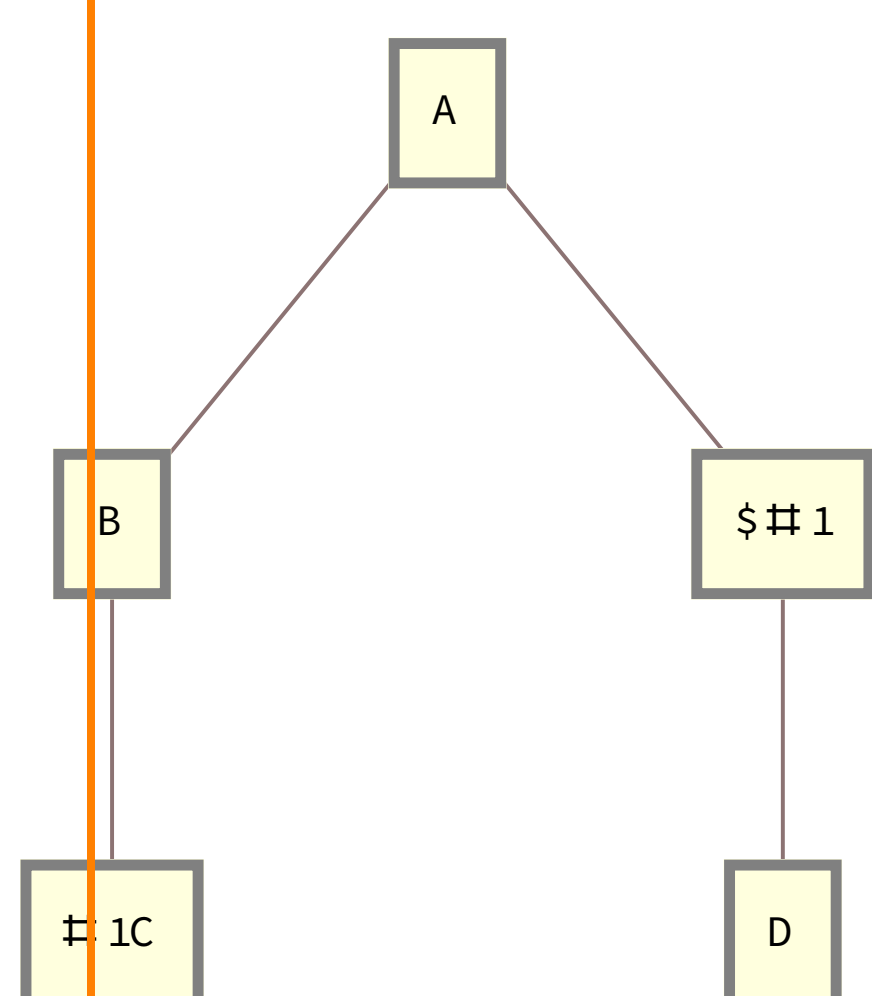
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Parsing

Parsing tree

Interpreted structure

Statements



Input:

$$A(B(\#1C), \$\#1(D))$$

Output:

Output:

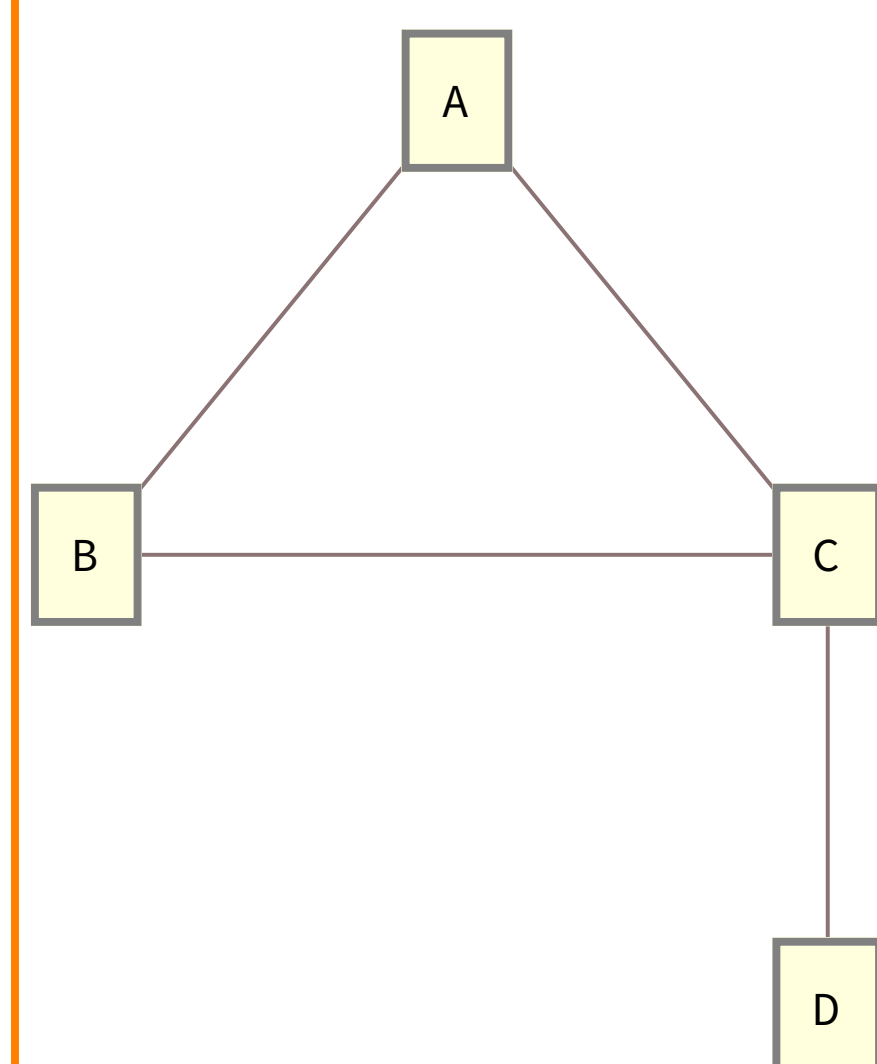
A(B(#1C),\$#1@#1C(D))

Parsing graph

Implicit graph

Interpreted structure

Statements



Input:

A(B(~~#~~1C),~~\$~~~~#~~1(D))

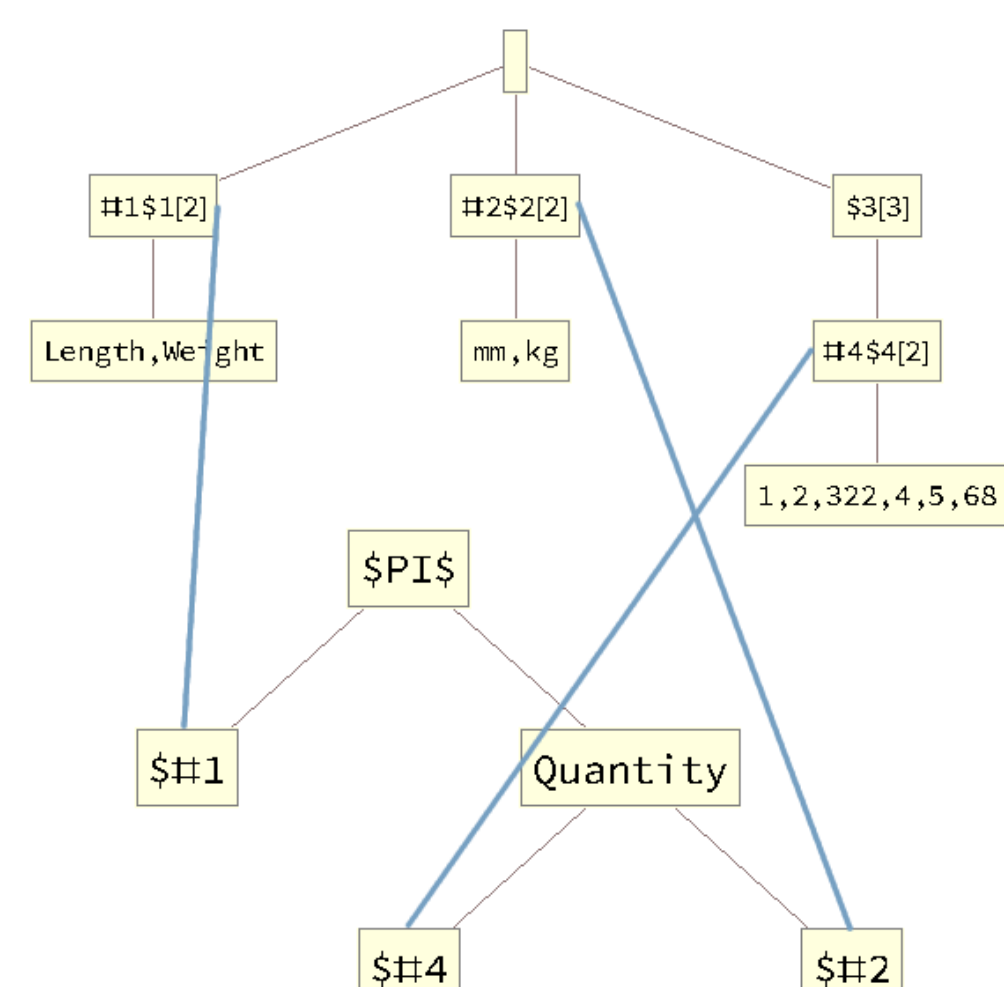
Adjacency matrix:

$$[:A:0], 1, 2, 3, \dots$$
$$, [B:1], 2, \dots,$$
$$,,[:\#1C:2],,,$$
$$,,,[:\$ \# 1:3 \rightarrow 2],4,$$
 $..., [:D:4],$

Binding and reforming data

Interpreted structure

Statements



Input:

$$(\#1\$1[2],\#2\$2[2],\$3[3](\#4\$4[2]));$$

```
$PI($#1,Quantity($#4,$#2))
```

Data:

Length, Weight, mm, kg, 1, 2, 322, 4, 5, 68

Output:

((Length,Quantity(1,mm)),

```
((Length,Quantity(222,mm)),
 (Weight,Quantity(2,kg))),
 ((Length,Quantity(222,mm))
```

```
((Length,Quantity(322,mm)),
 (Weight,Quantity(4,kg))),
```

```
((Length,Quantity(5,mm)),
 (Weight,Quantity(68,kg))))
```

```
(vweight, Quantity(68,kg))))
```