

## Das Programm:

```
def sety(position, wieviel):  
    position[1] = position[1] + wieviel  
    wieviel = 0  
  
origPos = [10, 20]  
  
pos = origPos  
  
pos[0] = pos[0] + 2  
  
wieviel = 1  
  
sety(pos, wieviel)
```

Definition! Wird nicht *ausgeführt*!

```
▶ def sety(position, wieviel):  
    position[1] = position[1] + wieviel  
  
    wieviel = 0  
  
    origPos = [10, 20]  
  
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    sety(pos, wieviel)
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```
def sety(position, wieviel):  
    position[1] = position[1] + wieviel  
    wieviel = 0
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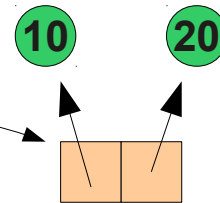
▶ origPos = [10, 20]

```
pos = origPos
```

```
pos[0] = pos[0] + 2
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wieviel = 1
```

```
sety(pos, wieviel)
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```
def sety(position, wieviel):
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    position[1] = position[1] + wieviel
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```
    wieviel = 0
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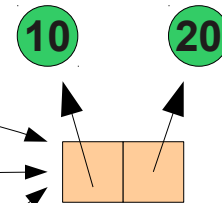
```
    origPos = [10, 20]
```

```
▶ pos = origPos
```

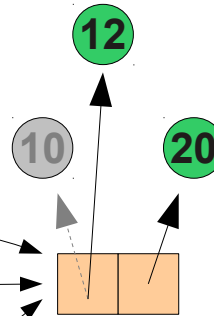
```
    pos[0] = pos[0] + 2
```

```
    wieviel = 1
```

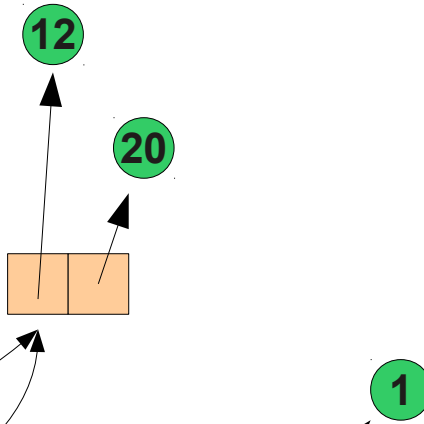
```
    sety(pos, wieviel)
```



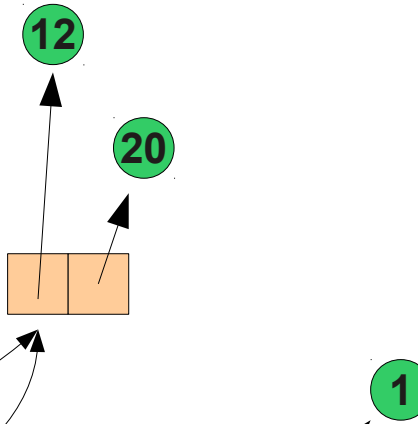
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```



## Funktionsaufruf!

Implizite Zuweisung der Argumente an die Parameter:

```
position = pos  
wieviel = wieviel
```

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def sety(position, wieviel):  
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```



### Funktionsaufruf!

Implizite Zuweisung der Argumente an die Parameter:

position = pos  
wieviel = wieviel

12

20

1





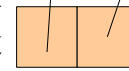


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```

12

20

1



```
def sety(position, wieviel):
```

```
    position[1] = position[1] + wieviel
```

```
    wieviel = 0
```

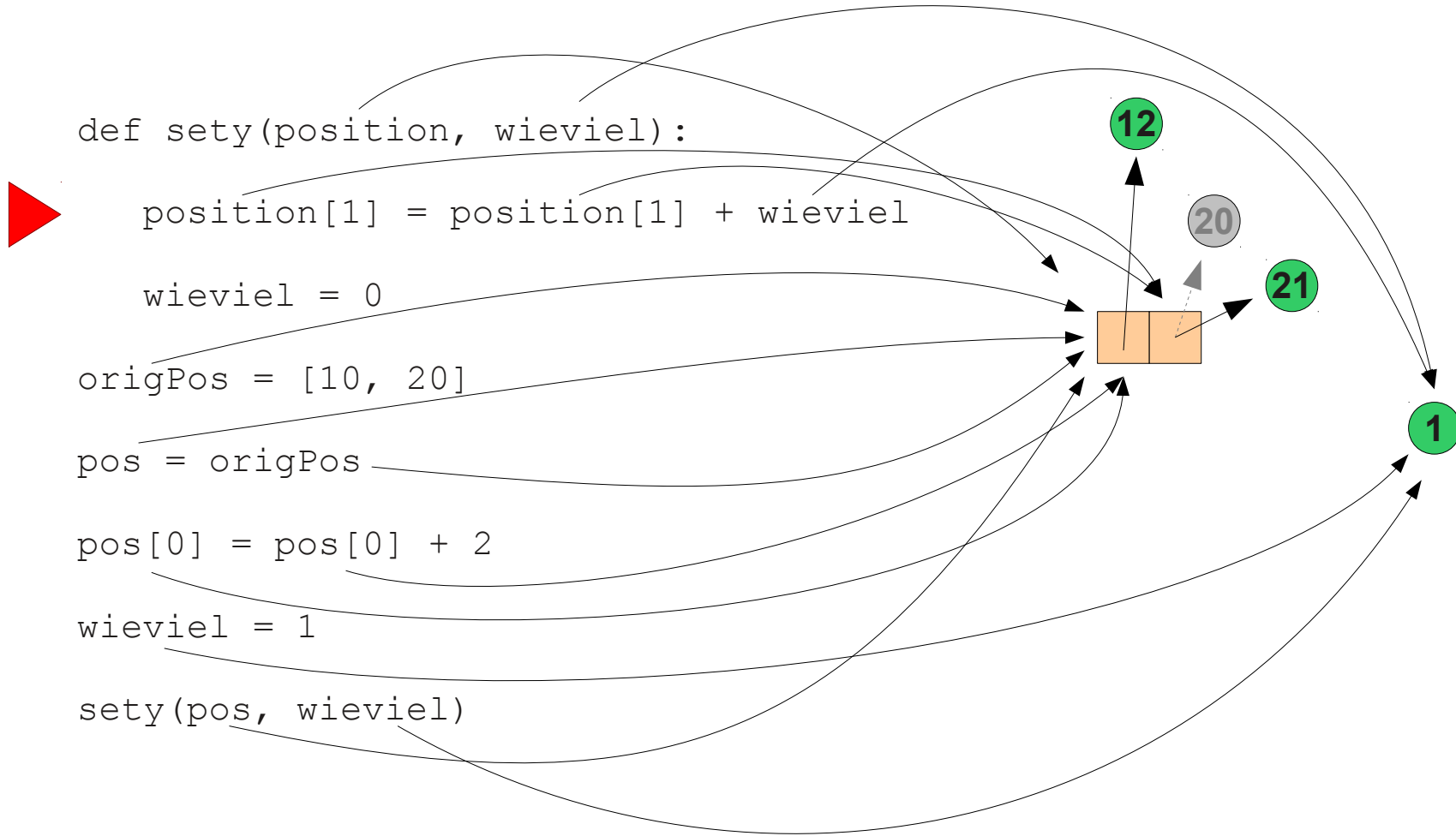
```
origPos = [10, 20]
```

```
pos = origPos
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pos[0] = pos[0] + 2
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    position[1] = position[1] + wieviel
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    wieviel = 0
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origPos = [10, 20]
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pos[0] = pos[0] + 2
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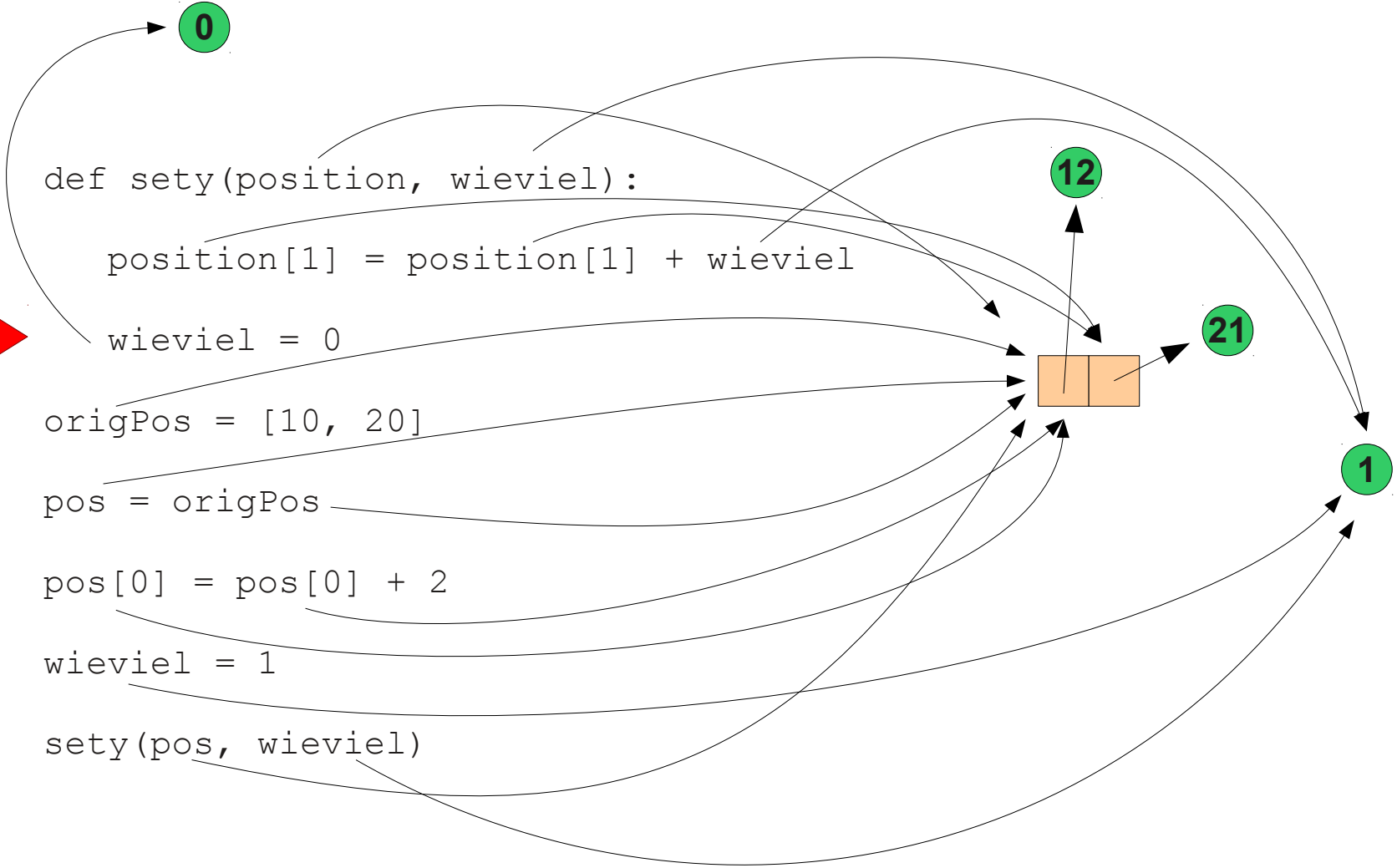
```
wieviel = 1
```

```
sety(pos, wieviel)
```

12

21

1



0

```
def sety(position, wieviel):
```

```
    position[1] = position[1] + wieviel
```

```
    wieviel = 0
```

```
origPos = [10, 20]
```

```
pos = origPos
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pos[0] = pos[0] + 2
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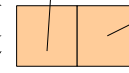
```
wieviel = 1
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12

21

1



Zuviele Pfeile?

Versuchen wir's noch einmal!

Diesmal mit Fokus auf den Gültigkeitsbereich von Namen.

## Definition! Gültigkeitsbereich von Namen wird analysiert

```
▶ def sety(position, wieviel):  
    position[1] = position[1] + wieviel  
  
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```

### Lokal in sety

---

position  
wieviel

### Global

---

sety



```
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### Lokal in sety

---

position  
wieviel

### Global

---

sety      sety werden wir von  
nun an ignorieren...



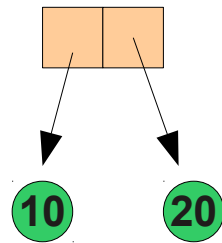
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Lokal in sety

position  
wieviel

Global

origPos



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### Lokal in sety

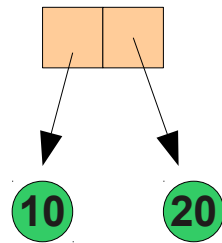
---

position  
wieviel

### Global

---

origPos  
pos



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### Lokal in sety

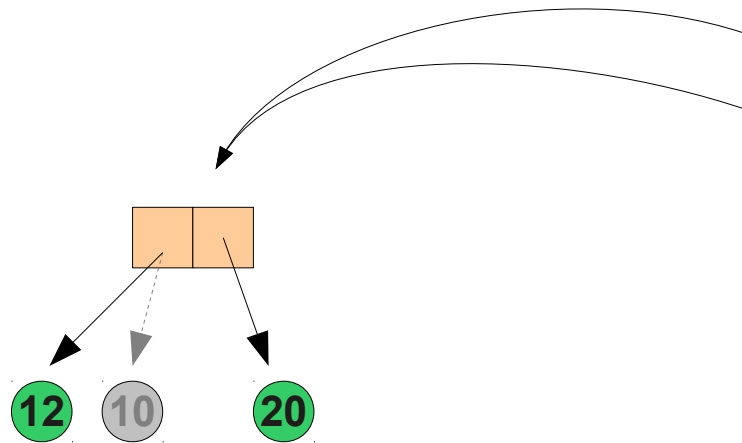
---

position  
wieviel

### Global

---

origPos  
pos



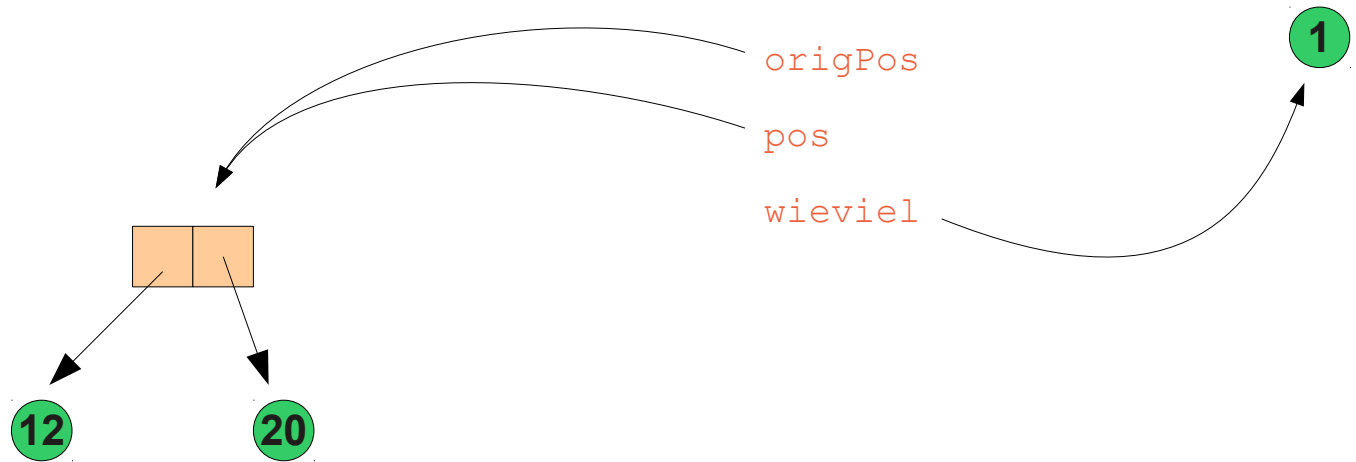
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```

### Lokal in sety

position  
wieviel

### Global

origPos  
pos  
wieviel



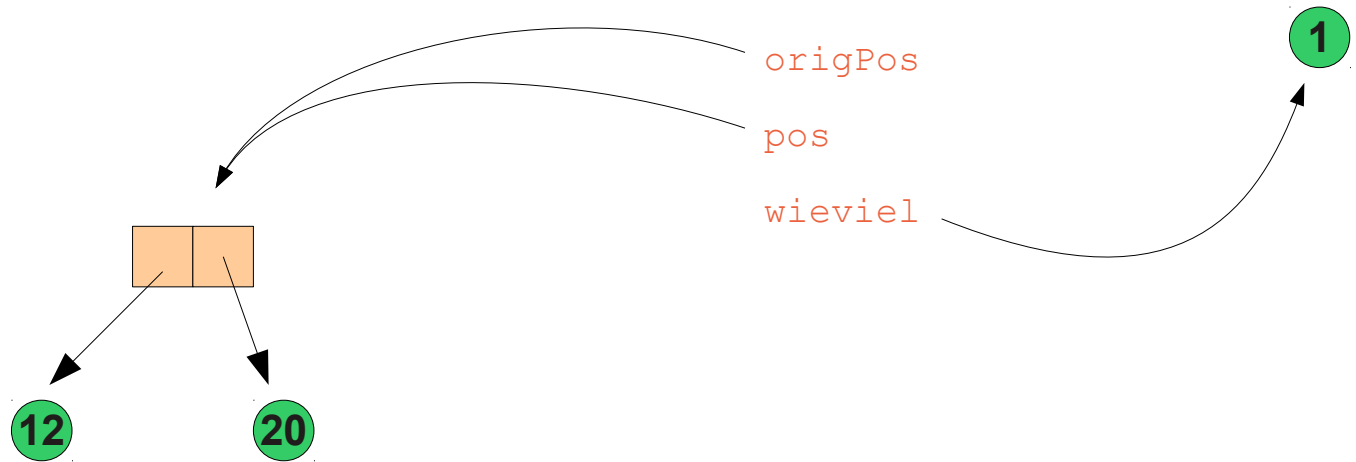
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### Lokal in sety

position  
wieviel

### Global

origPos  
pos  
wieviel



► def sety(<sup>pos</sup>position, <sup>wieviel</sup>wieviel):

    position[1] = position[1] + wieviel

    wieviel = 0

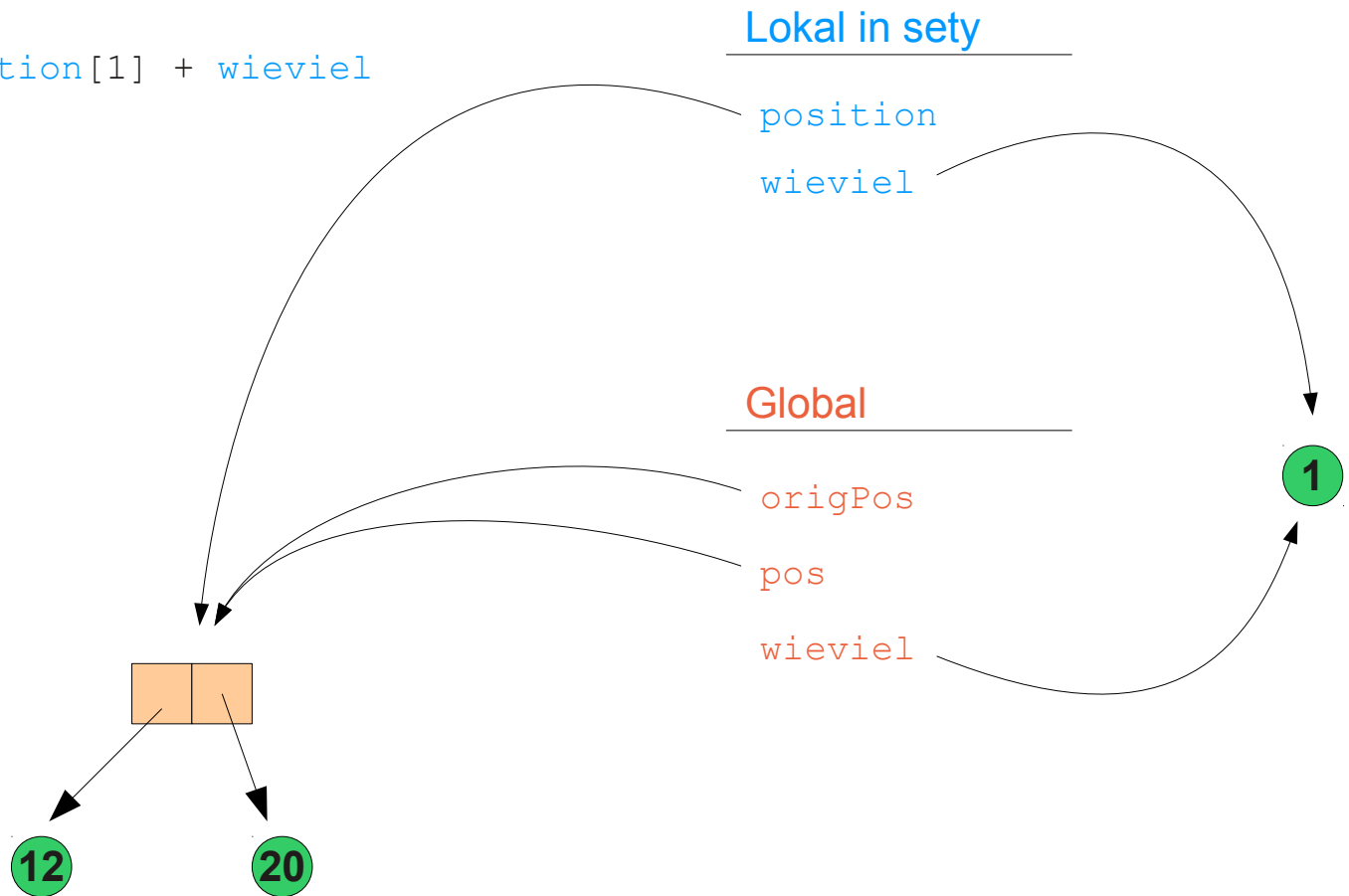
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Lokal in sety

position

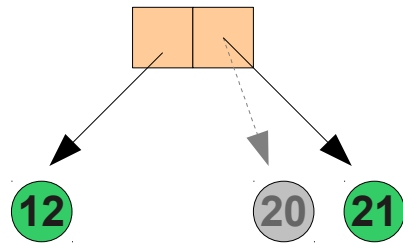
wieviel

Global

origPos

pos

wieviel



1

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def sety(position, wieviel):
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```
    position[1] = position[1] + wieviel
```

```
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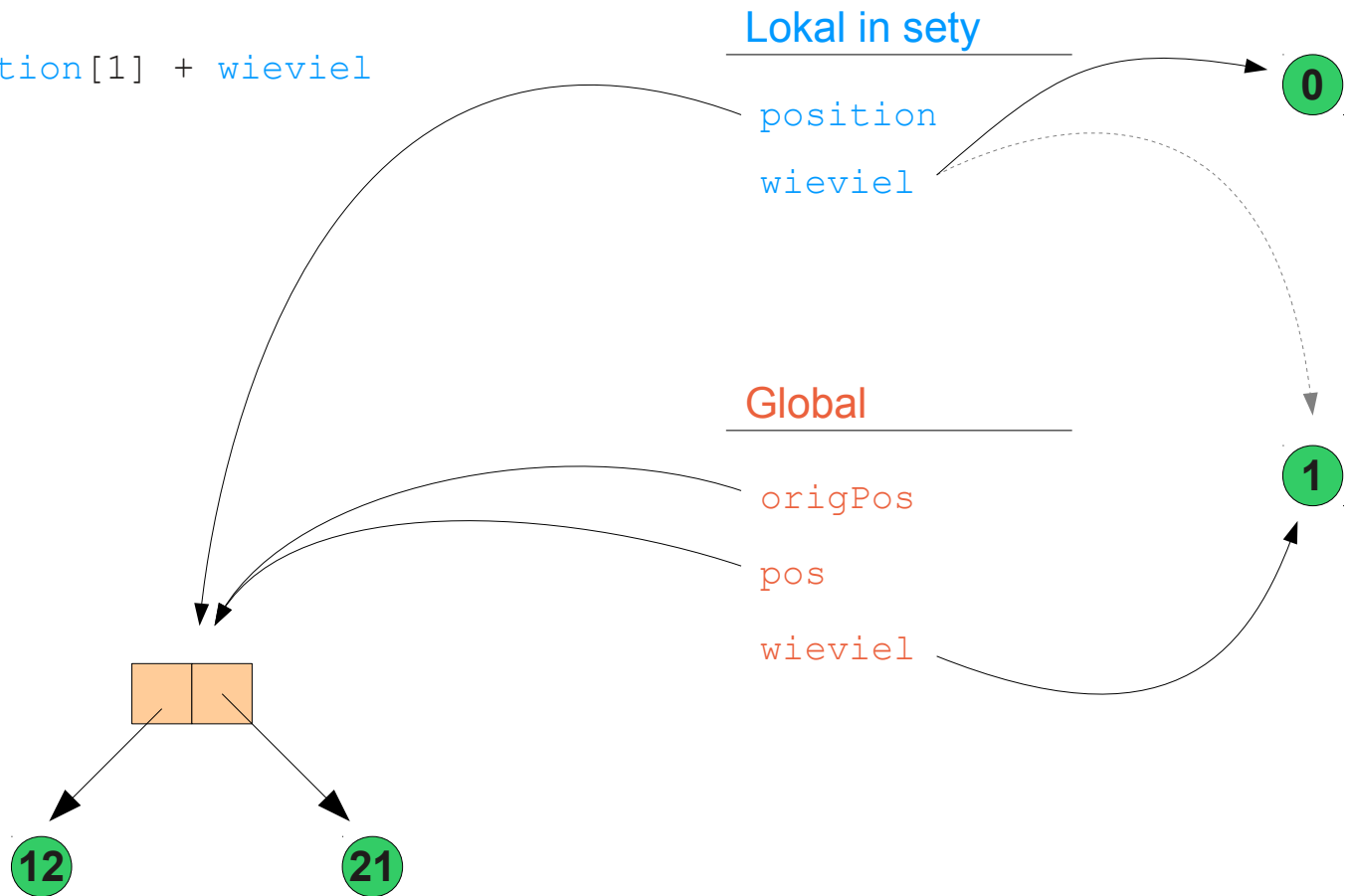
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Lokal in sety

position

wieviel

0

Global

origPos

pos

wieviel

1

