



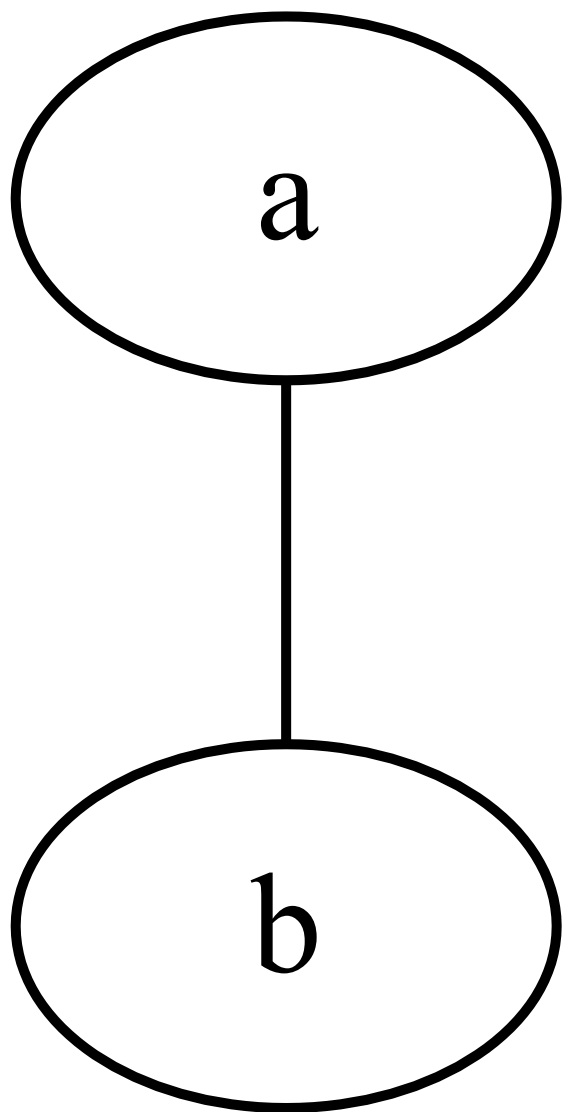
Universiteit Antwerpen
| Faculteit Wetenschappen

Introductie tot dot

Hitchhikers Guide to CS

Wat is dot?

- **Simpele "taal" om grafen te visualiseren**
 - Layout wordt voor jou geregeld
- **Waarom?**
 - Handige tool om grafen te visualiseren voor de vakken van Prof. Laenens

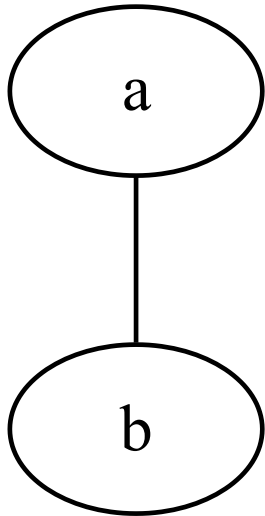


Basic graaf

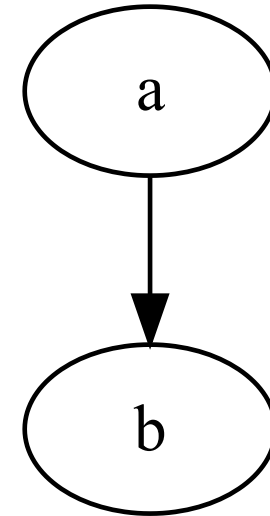
graph G {
 a -- b
}

Gerichte vs ongerichte grafen

graph G {
 a -- b
}

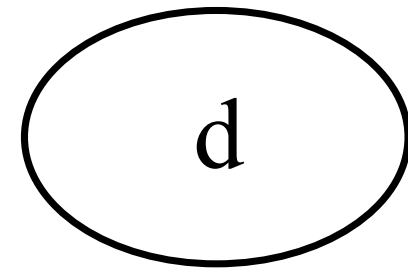
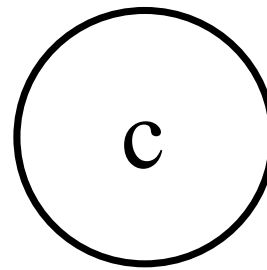
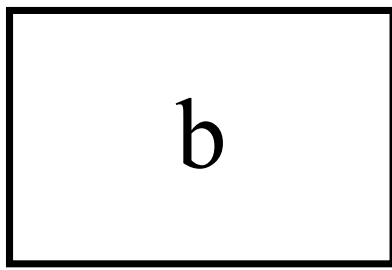
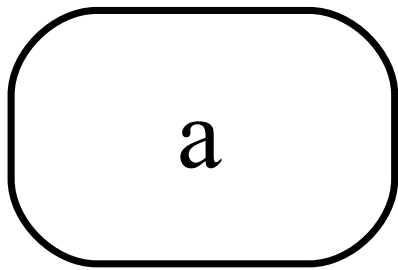


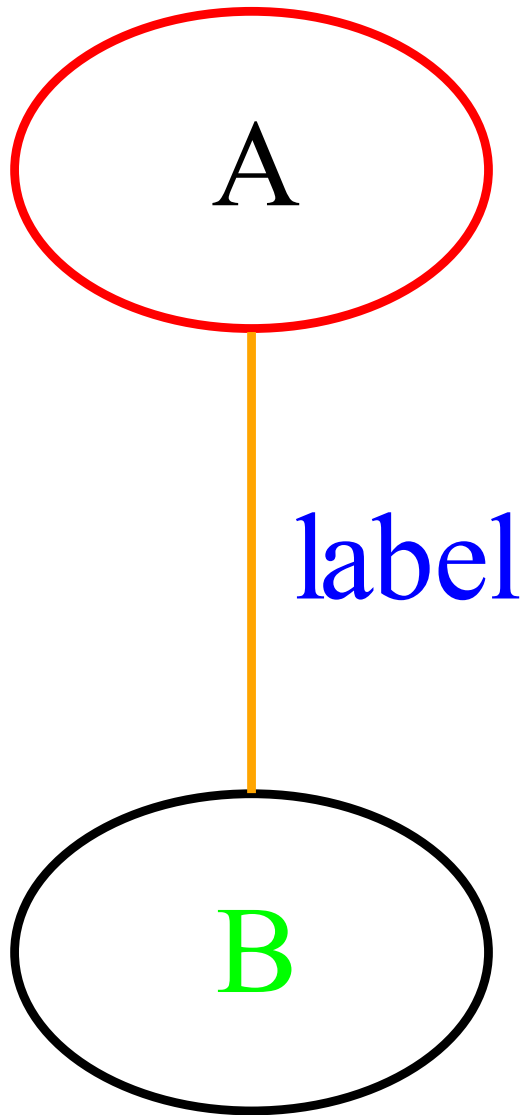
digraph G {
 a -> b
}



Vormen

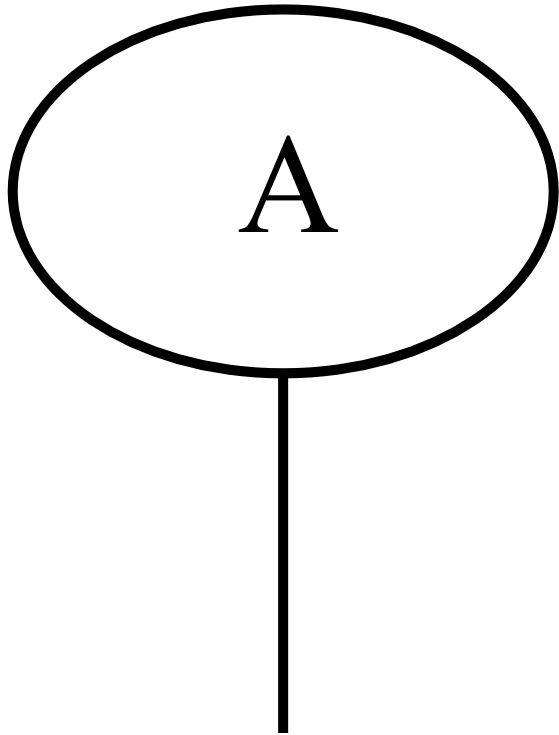
```
graph G {  
  node1 [label="a", shape=Mrecord]  
  node2 [label="b", shape=record]  
  node3 [label="c", shape=circle]  
  node4 [label="d"]  
}
```





Kleur

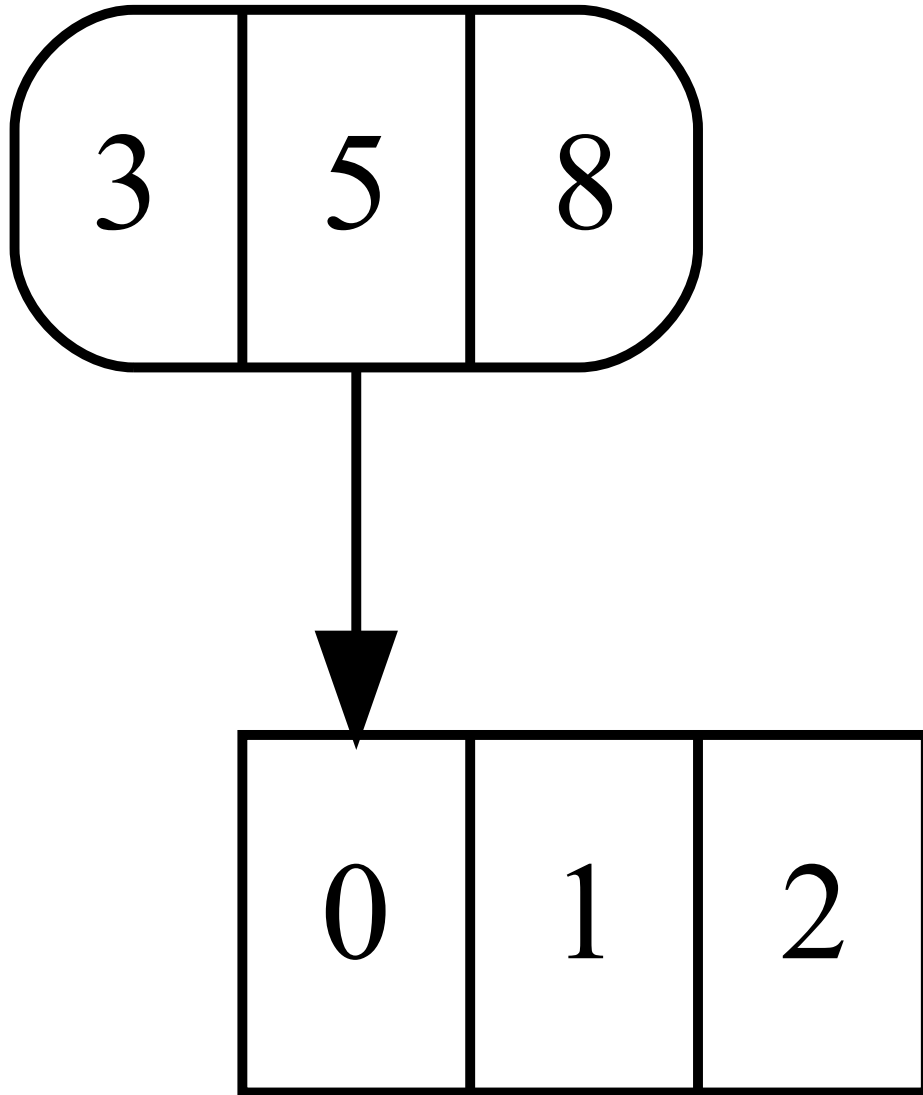
```
graph G {  
    node1 [ label = " A " , color = Red ]  
    node2 [ label = " B " , fontcolor =  
Green ]  
    node1 -- node2 [ label = " label " ,  
        color = Orange ,  
        fontcolor = Blue ]  
}
```



Zichtbaarheid

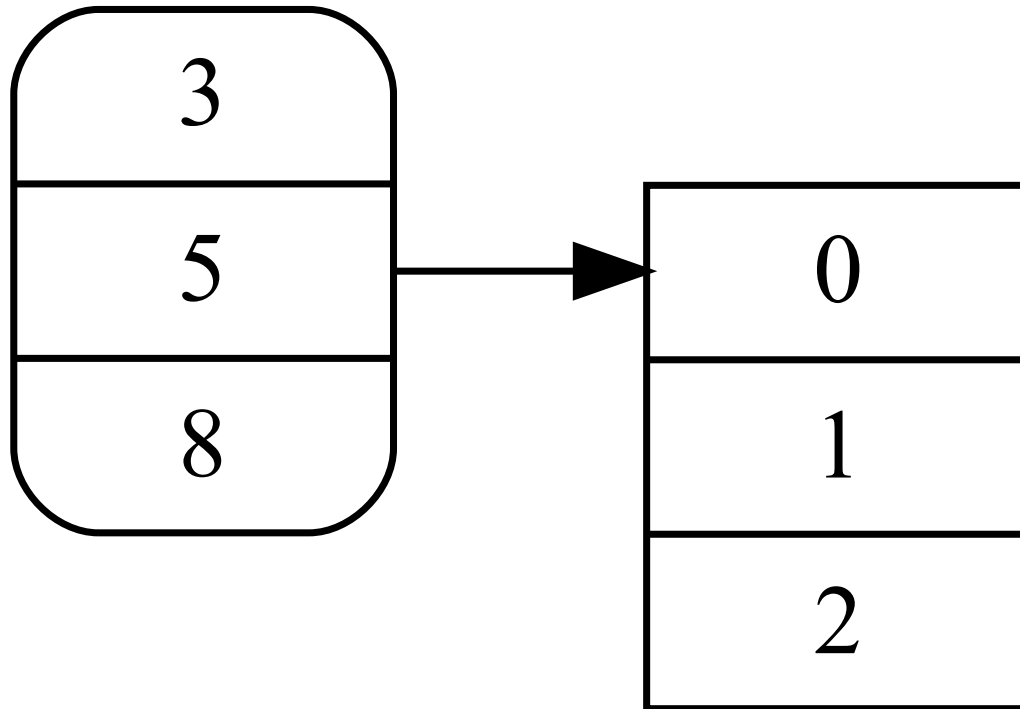
```
graph G {  
  node1 [ label = " A " ]  
  node2 [ label = " B " , style = invis ]  
  node1 -- node2  
}
```

Opsplitsen van nodes



```
digraph g {  
  node [shape=record];  
  node0 [label="3 | 5 | 8", shape=Mrecord];  
  node1 [label="<here> 0 | 1 | 2"];  
  
  node0 -> node1:here  
}
```

Richting



```
digraph g {  
  node [shape=record];  
  node0 [label="3 | 5 | 8", shape=Mrecord];  
  node1 [label="<here> 0 | 1 | 2"];  
  
  node0 -> node1:here  
  
  rankdir = LR  
}
```

Extra documentatie

- <https://www.graphviz.org/doc/info/lang.html>

Dot to PNG

- `sudo apt install graphviz`
- `dot -Tpng InputFile.dot -o Output.png`

Python package

- `pip install graphviz`
- `from graphviz import render`
- `render('dot', 'png', 'inputfile.dot')`

Python package

```
import graphviz
```

```
dot = graphviz.Digraph(comment='Dot test')
```

```
dot.node('A')
```

```
dot.node('B')
```

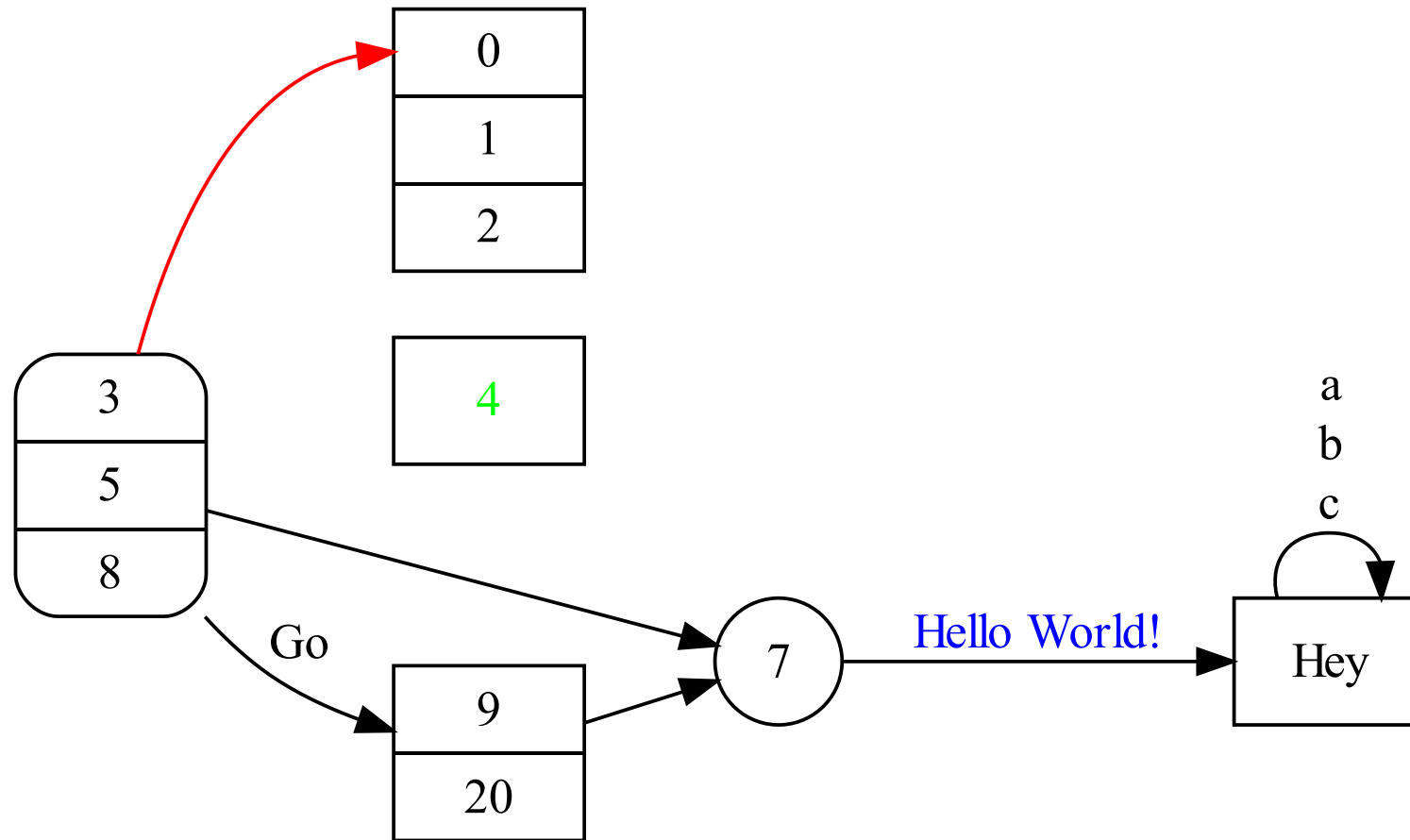
```
dot.node('C')
```

```
dot.edges(['AB', 'AC', 'BC'])
```

```
print(dot.source)
```

```
dot.render('./dotTest')
```

Oefening



Oplossing

```
digraph g {  
  node [shape=record];  
  node0 [label="3 | 5 | 8", shape=Mrecord];  
  node1 [label="<here> 0 | 1 | 2"];  
  node2 [label="4", fontcolor=Green];  
  node3 [label="7", shape=circle];  
  node4 [label="9 | 20"];  
  
  node0 -> node1:here [color=Red];  
  node0 -> node2 [style=invis];  
  node0 -> node3;  
  node0 -> node4 [label=Go];  
  node4 -> node3;  
  node3 -> Hey [label="Hello World!", fontcolor=Blue];  
  Hey -> Hey [label="a\nb\nc"];  
  
  rankdir=LR;  
}
```