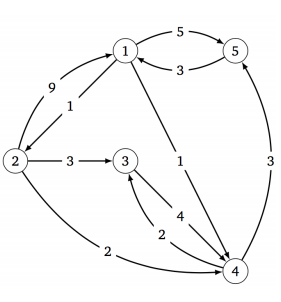
# Floyd

## Datastructuren

Niet lineair:

Graaf: De elementen vormen geen rij.

## Algoritme van Floyd



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 |
| 1 | 0 | 1 | ∞ | 1 | 5 |
| 2 | 9 | 0 | 3 | 2 | ∞ |
| 3 | ∞ | ∞ | 0 | 4 | ∞ |
| 4 | ∞ | ∞ | 2 | 0 | 3 |
| 5 | 3 | ∞ | ∞ | ∞ | 0 |

Algoritme van Floyd systematisch 1 extra knoop toelaten als “tussenknoop”.

Noteer dit in een pointermatrix.

1 wordt een toegelaten tussenstation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 |
| 1 | 0 | 1 | ∞ | 1 | 5 |
| 2 | 9 | 0 | 3 | 2 | 14 |
| 3 | ∞ | ∞ | 0 | 4 | ∞ |
| 4 | ∞ | ∞ | 2 | 0 | 3 |
| 5 | 3 | 4 | ∞ | 4 | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 1 | 0 |

2 wordt een toegelaten tussenstation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 |
| 1 | 0 | 1 | 4 | 1 | 5 |
| 2 | 9 | 0 | 3 | 2 | 14 |
| 3 | ∞ | ∞ | 0 | 4 | ∞ |
| 4 | ∞ | ∞ | 2 | 0 | 3 |
| 5 | 3 | 4 | 7 | 4 | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0 | 0 | 2 | 0 | 0 |
| 0 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 2 | 1 | 0 |

3 wordt een toegelaten tussenstation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 |
| 1 | 0 | 1 | 4 | 1 | 5 |
| 2 | 9 | 0 | 3 | 2 | 14 |
| 3 | ∞ | ∞ | 0 | 4 | ∞ |
| 4 | ∞ | ∞ | 2 | 0 | 3 |
| 5 | 3 | 4 | 7 | 4 | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0 | 0 | 2 | 0 | 0 |
| 0 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 2 | 1 | 0 |

4 wordt een toegelaten tussenstation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 |
| 1 | 0 | 1 | 3 | 1 | 4 |
| 2 | 9 | 0 | 3 | 2 | 5 |
| 3 | ∞ | ∞ | 0 | 4 | 4 |
| 4 | ∞ | ∞ | 2 | 0 | 3 |
| 5 | 3 | 4 | 6 | 4 | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0 | 0 | 4 | 0 | 4 |
| 0 | 0 | 0 | 0 | 4 |
| 0 | 0 | 0 | 0 | 4 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 4 | 1 | 0 |

5 wordt een toegelaten tussenstation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 |
| 1 | 0 | 1 | 4 | 1 | 5 |
| 2 | 8 | 0 | 3 | 2 | 14 |
| 3 | 10 | 11 | 0 | 4 | ∞ |
| 4 | 6 | 7 | 2 | 0 | 3 |
| 5 | 3 | 4 | 7 | 4 | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0 | 0 | 4 | 0 | 4 |
| 5 | 0 | 0 | 0 | 4 |
| 5 | 5 | 0 | 0 | 4 |
| 5 | 5 | 0 | 0 | 0 |
| 0 | 1 | 4 | 1 | 0 |