

# Inhaltsverzeichnis

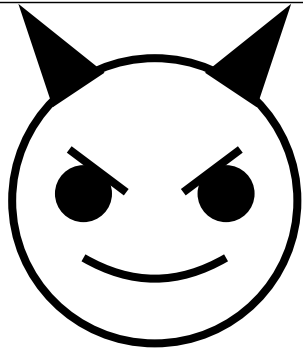
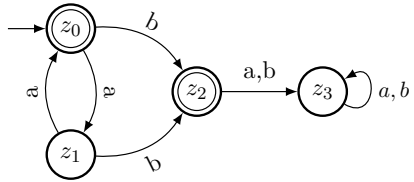
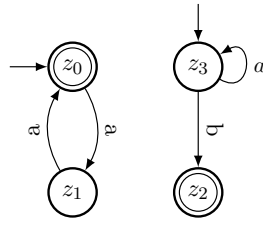
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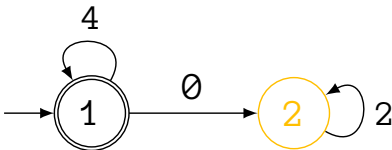
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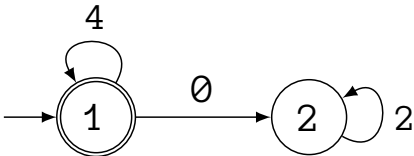
| Pfad               | Ergebnis   |
|--------------------|--|
| Allerlei/Teufel    |    |
| Automat/AutomatDFA | <p>Deterministic Finite Automaton</p>  $D = \left( \begin{array}{ccccc} \text{Zustände} & \text{Eingabe} & \text{Übergangsfkt.} & \text{Start(s)} & \text{Endzust.} \\ Z & \Sigma & \delta & S & E \\ \text{Menge} & \text{Alphabet} & Z \times \Sigma \rightarrow Z & \in Z & \subseteq Z \end{array} \right)$ $T(D) = \{x \in \Sigma^* \mid \hat{\delta}(S, x) \cap E \neq \emptyset\}$             |
| Automat/AutomatNFA | <p>Nondeterministic Finite Automaton</p>  $N = \left( \begin{array}{ccccc} \text{Zustände} & \text{Eingabe} & \text{Übergangsfkt.} & \text{Start(s)} & \text{Endzust.} \\ Z & \Sigma & \delta & S & E \\ \text{Menge} & \text{Alphabet} & Z \times \Sigma \rightarrow Z^* & \subseteq Z & \subseteq Z \end{array} \right)$ $T(N) = \{x \in \Sigma^* \mid \hat{\delta}(S, x) \cap E \neq \emptyset\}$ |

|        |   | 1<br>a | 2<br>b | 3<br>c | 4<br>c |
|--------|---|--------|--------|--------|--------|
| T[1,j] | 1 | A      | B      | CE     | CE     |
| T[2,j] | 2 | D      | -      | E      |        |
| T[3,j] | 3 | S      | -      |        |        |
| T[4,j] | 4 | S      |        |        |        |

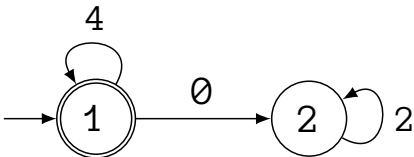
Automat/CYKAlgorithmus



Automat/Demo-1



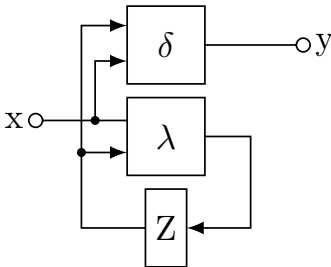
Automat/Demo-2



Automat/Demo

Isch bin a Hädder!

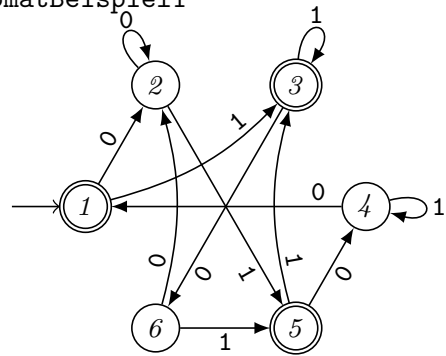
Automat/Header



Ausgabe von Zustand & Eingabe abhängig

Automat/MealyAutomat

Automat/Minimalautomat-Beispiel/MinimalautomatBeispiel1




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|   |  |
|---|--|
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |

Automat/Minimalautomat-Beispiel/MinimalautomatBeispiel2

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|   |   |
|---|---|
| 2 | 0 |
| 3 | 0 |
| 4 | 0 |
| 5 | 0 |
| 6 | 0 |

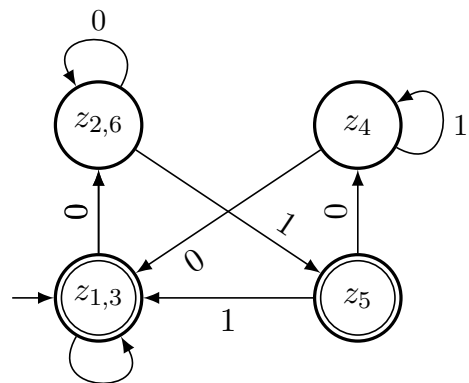
Automat/Minimalautomat-Beispiel/MinimalautomatBeispiel3

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

Automat/Minimalautomat-Beispiel/MinimalautomatBeispiel4

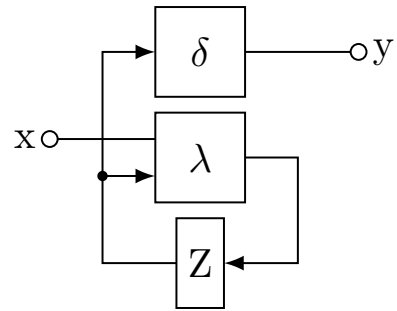
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|---|---|---|---|---|---|
| 2 | 0 |   |   |   |   |
| 3 |   | 0 |   |   |   |
| 4 | 0 | 1 | 0 |   |   |
| 5 | 2 | 0 | 2 | 0 |   |
| 6 | 0 |   | 0 | 1 | 0 |
|   | 1 | 2 | 3 | 4 | 5 |

Automat/Minimalautomat-Beispiel/MinimalautomatBeispiel5



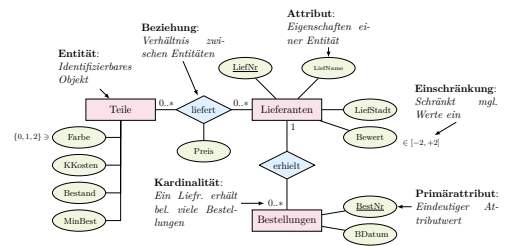
Automat/Minimalautomat-Beispiel/MinimalautomatBeispiel6



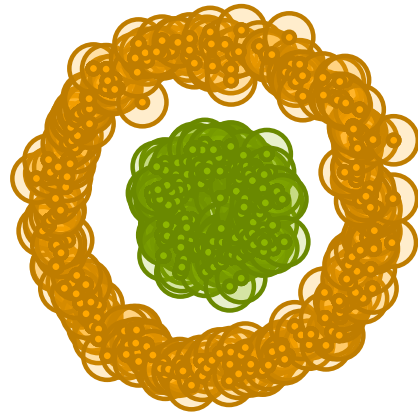


Automat/MooreAutomat

Ausgabe nur vom Zustand abhängig

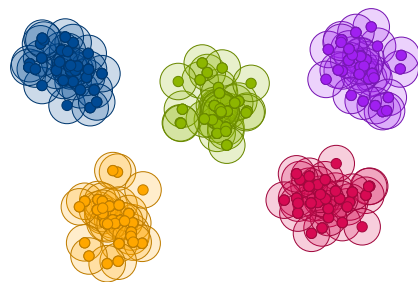


Datenbanken/ERExample



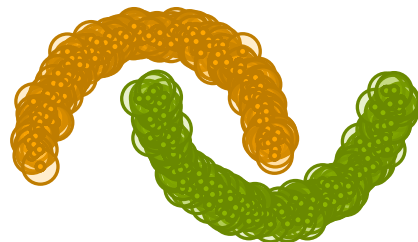
Eigene/Proseminar/Cluster/en-circles

pdf



Eigene/Proseminar/Cluster/en-clusters

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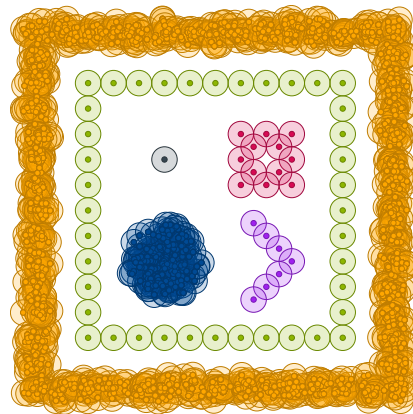


Eigene/Proseminar/Cluster/en-moons

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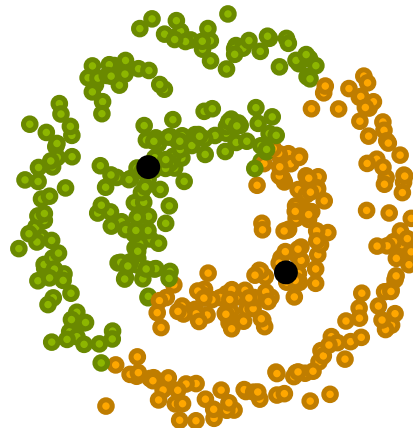
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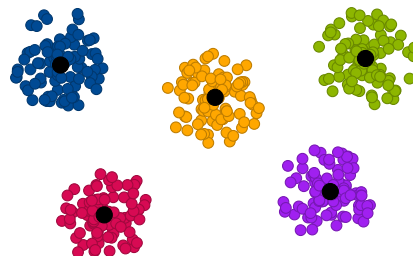
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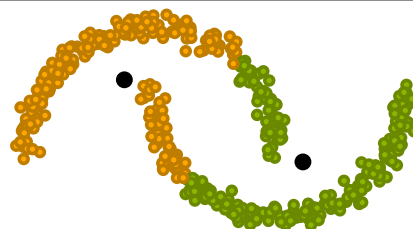
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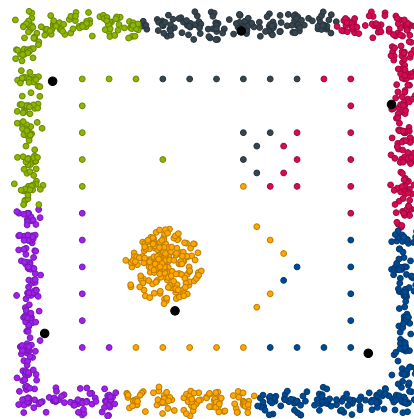
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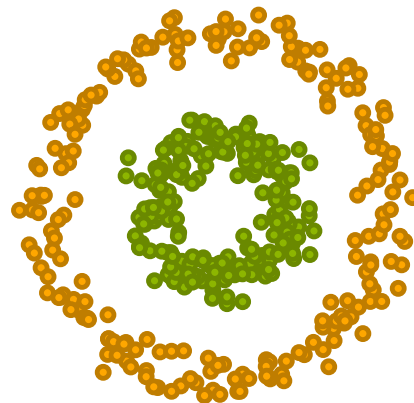
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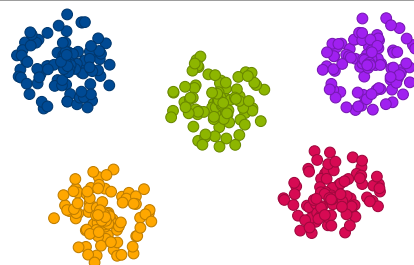
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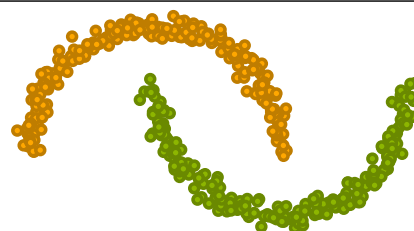
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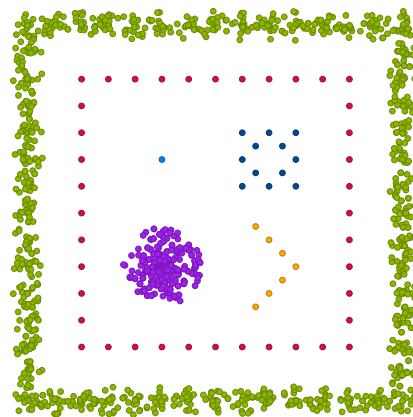
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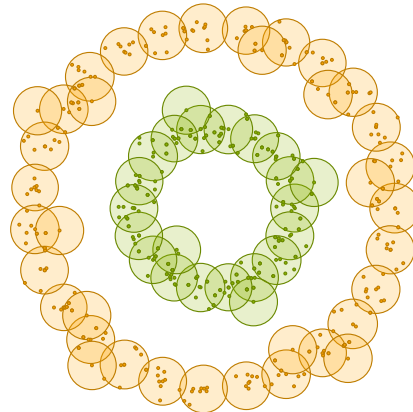
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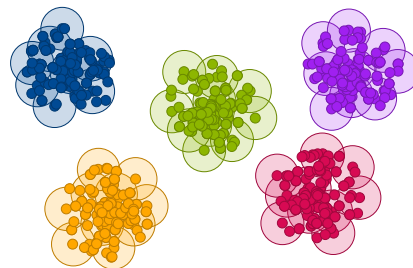
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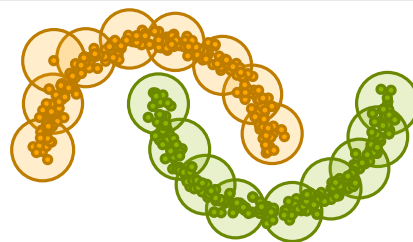
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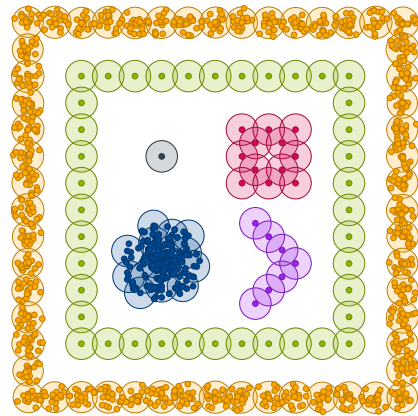
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Eigene/Proseminar/Cluster/rolf-moons  
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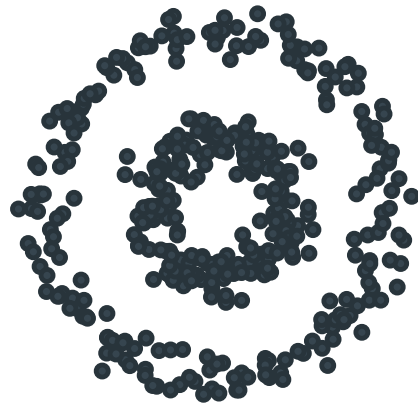
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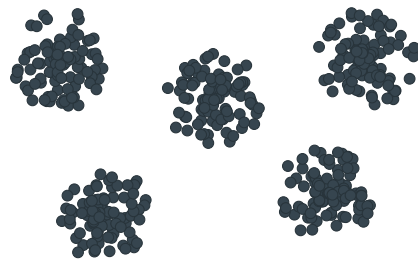
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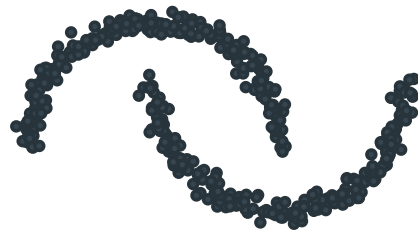
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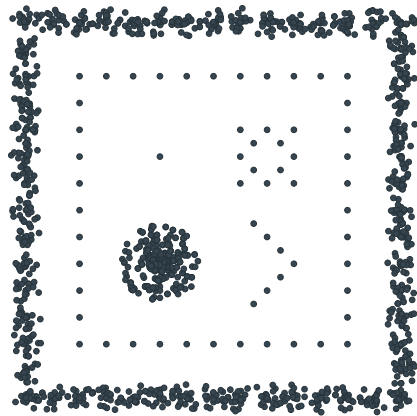
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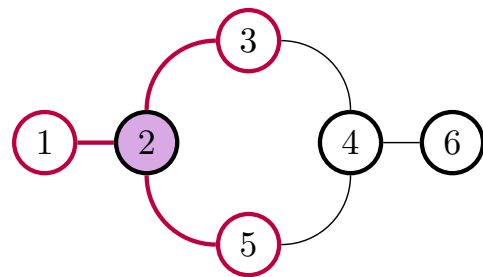
Eigene/Proseminar/Cluster/thumb-moons  
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Eigene/Proseminar/Cluster/thumb-special  
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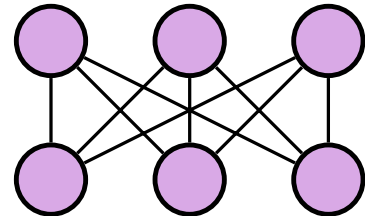
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Graphen/GraphNachbarschaftGrad

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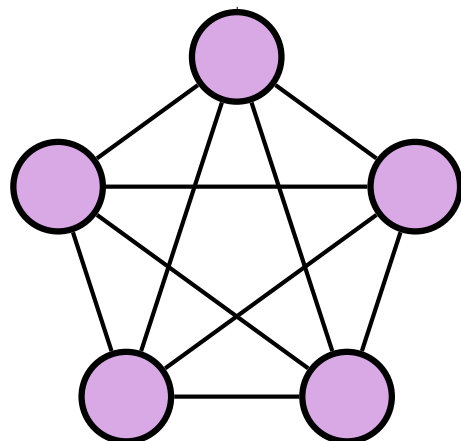
$K_{3,3}$



Graphen/GraphNichtPlanarK33

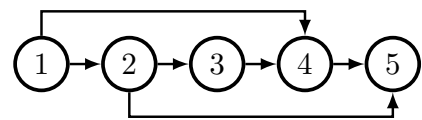
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$K_5$



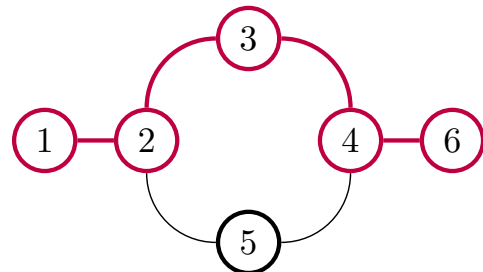
Graphen/GraphNichtPlanarK5

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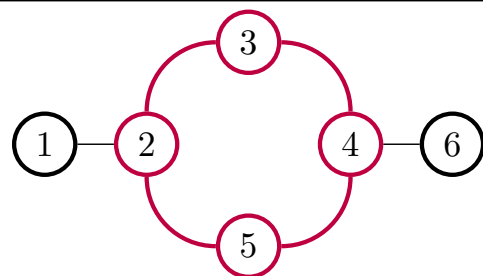
Graphen/GraphTopologie

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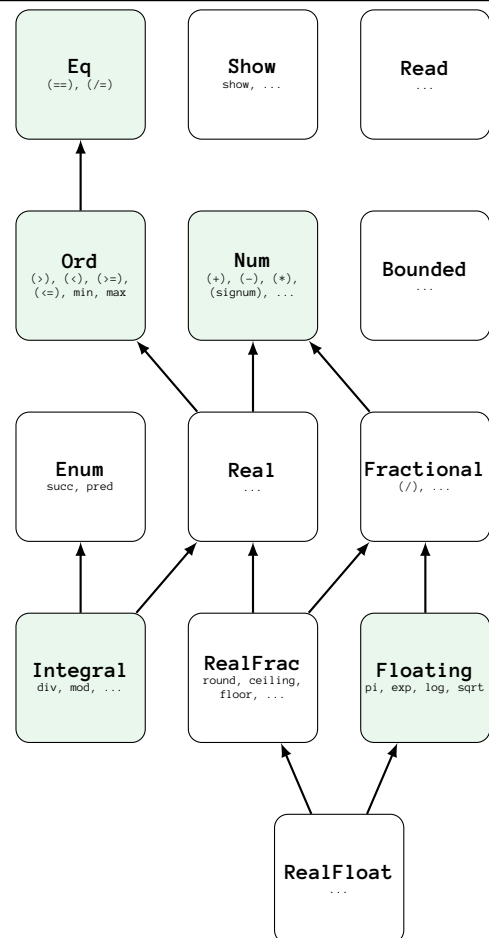
Graphen/GraphWegPfad

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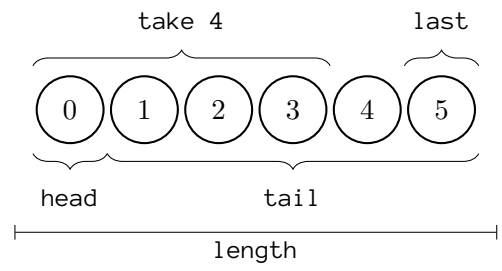
Graphen/GraphZyklus

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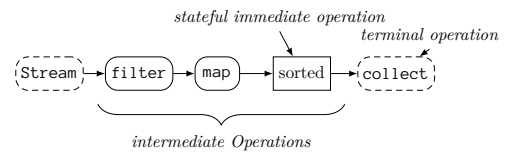


Haskell/HaskellTypen

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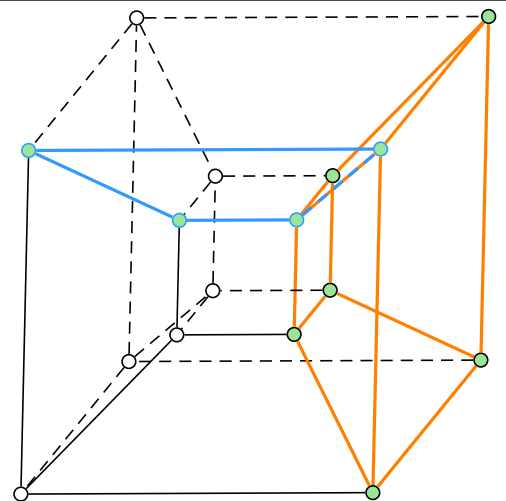
Haskell/Listenoperationen



Java/StreamDemo

|           | $\bar{a}$ | $a$       | $a$ | $\bar{a}$ |           |
|-----------|-----------|-----------|-----|-----------|-----------|
| $\bar{b}$ | 0         | 0         | 0   | 0         | $\bar{d}$ |
| $b$       | 1         | 1         | 1   | 1         | $\bar{d}$ |
| $b$       | 1         | 1         | 1   | 1         | $d$       |
| $\bar{b}$ | 0         | 0         | 1   | 1         | $d$       |
|           | $\bar{c}$ | $\bar{c}$ | $c$ | $c$       |           |

Logik/KVDiagramm



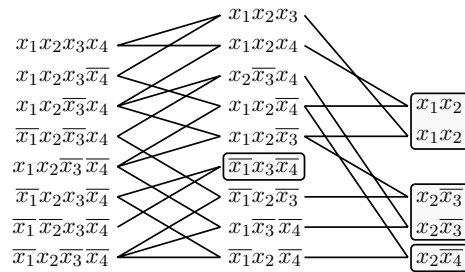
Logik/KVWuerfel



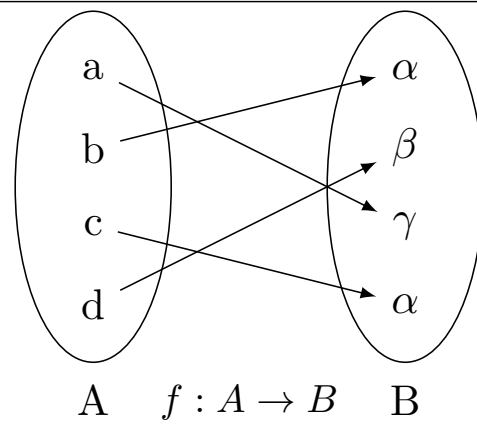
Logik/QuineMCCluskeyTabelle

|                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------------|---|---|---|---|---|---|---|---|
| $x_1x_2$                | + | + | + |   | + |   |   |   |
| $x_2\bar{x}_3$          |   |   | + | + | + |   |   | + |
| $x_2\bar{x}_4$          |   | + |   |   | + | + |   | + |
| $\bar{x}_1x_3\bar{x}_4$ |   |   |   |   |   | + | + |   |

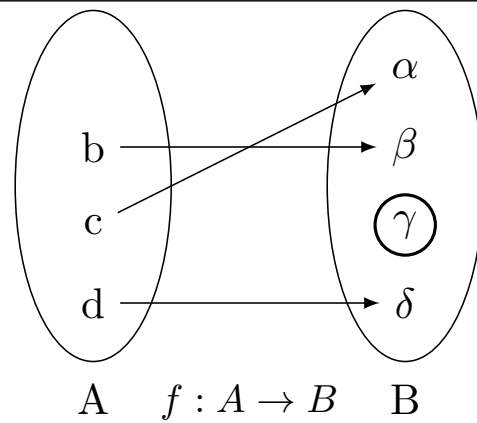
Logik/QuineMCCluskeyZusammenfassen

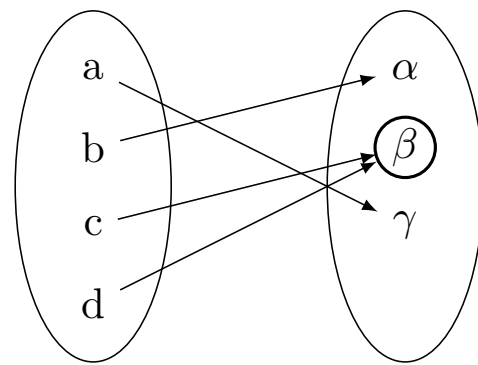


Mengen/FunktionBijektiv



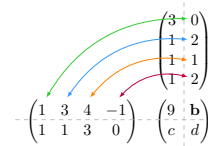
Mengen/FunktionInjektiv





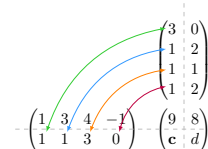
$A \quad f : A \rightarrow B \quad B$

Mengen/FunktionSurjektiv



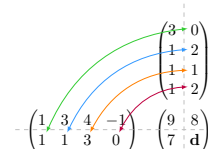
Für  $b$  ergibt sich also:  
 $b = 1 * 0 + 3 * 2 + 4 * 1 + (-1) * 2$   
 $= 8$

Mengen/Mengenmultiplikation/Mengenmultiplikation2



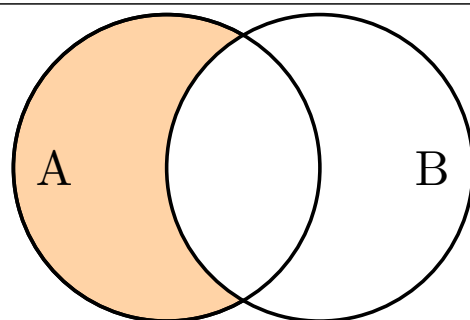
Für  $c$  ergibt sich also:  
 $c = 1 * 3 + 1 * 1 + 3 * 1 + 0 * 1$   
 $= 7$

Mengen/Mengenmultiplikation/Mengenmultiplikation3

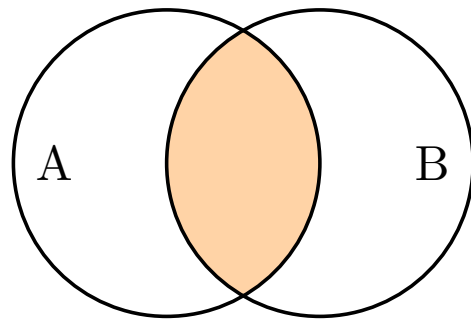


Für  $d$  ergibt sich also:  
 $d = 1 * 0 + 1 * 2 + 3 * 1 + 0 * 2$   
 $= 5$

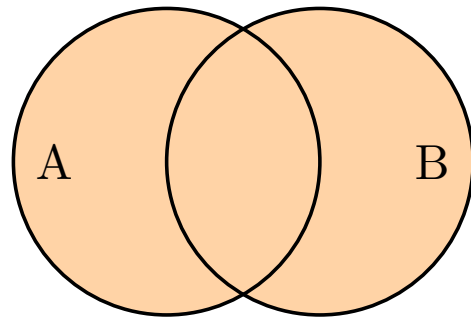
Mengen/Mengenmultiplikation/Mengenmultiplikation4



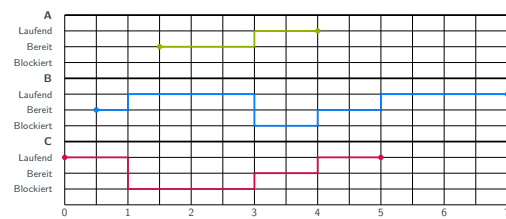
Mengen/VennDifferenz



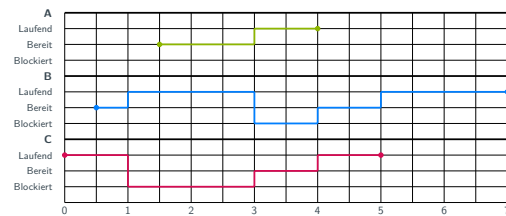
Mengen/VennSchnitt



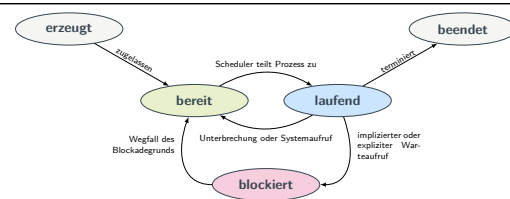
Mengen/VennVereinigung



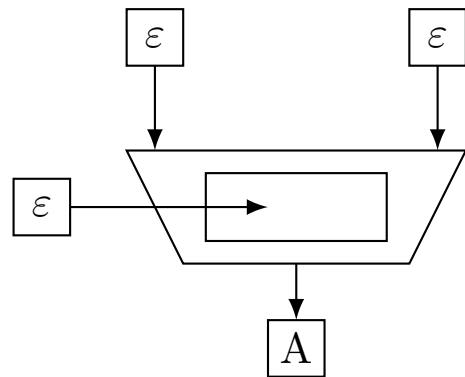
Prozesse/FCFS-WorstCase



Prozesse/FCFS



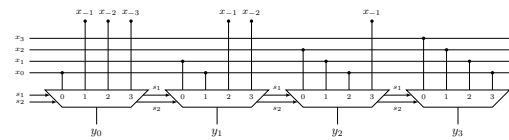
Prozesse/Prozesszustaende



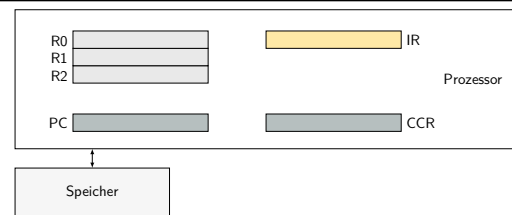
Rechner/ALU

| $\delta$      | Zustand |       |       | Folgez. |        | NS        |           |           | WO        |           |           | T                        |
|---------------|---------|-------|-------|---------|--------|-----------|-----------|-----------|-----------|-----------|-----------|--------------------------|
|               | $h_0$   | $z_0$ | $z_1$ | $z'_0$  | $z'_1$ | $\bullet$ | $\circ$   | $\circ$   | $\bullet$ | $\circ$   | $\circ$   |                          |
| $\delta_0$    | 0       | 0     | 0     | 0       | 1      | $\bullet$ | $\circ$   | $\circ$   | $\circ$   | $\circ$   | $\bullet$ | $7 \Rightarrow h'_0 = 1$ |
| $\delta_1$    | 1       | 0     | 1     | 0       | 1      | $\bullet$ | $\circ$   | $\circ$   | $\circ$   | $\circ$   | $\bullet$ | $T - 1$                  |
| $\delta_3$    | 0       | 0     | 1     | 1       | 0      | $\circ$   | $\bullet$ | $\circ$   | $\circ$   | $\bullet$ | $\circ$   | $2 \Rightarrow h'_0 = 1$ |
| $\delta_4$    | 1       | 1     | 0     | 1       | 0      | $\circ$   | $\bullet$ | $\circ$   | $\circ$   | $\bullet$ | $\circ$   | $T - 1$                  |
| $\delta_6$    | 0       | 1     | 0     | 1       | 1      | $\circ$   | $\circ$   | $\bullet$ | $\circ$   | $\circ$   | $\circ$   | $7 \Rightarrow h'_0 = 1$ |
| $\delta_7$    | 1       | 1     | 1     | 1       | 1      | $\circ$   | $\circ$   | $\bullet$ | $\circ$   | $\circ$   | $\circ$   | $T - 1$                  |
| $\delta_9$    | 0       | 1     | 1     | 0       | 0      | $\circ$   | $\bullet$ | $\circ$   | $\circ$   | $\bullet$ | $\circ$   | $2 \Rightarrow h'_0 = 1$ |
| $\delta_{10}$ | 1       | 0     | 0     | 0       | 0      | $\circ$   | $\bullet$ | $\circ$   | $\circ$   | $\bullet$ | $\circ$   | $T - 1$                  |

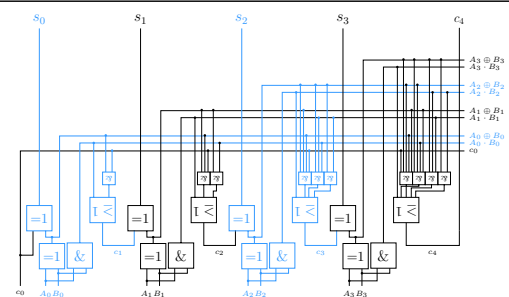
Rechner/AmpelPLA



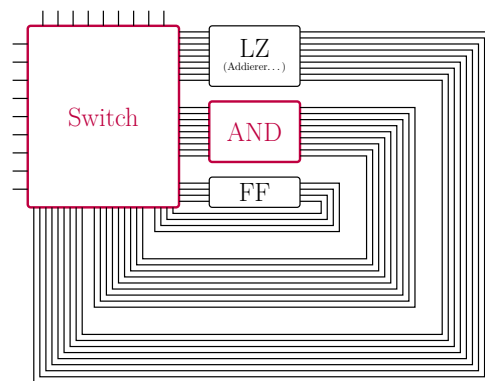
Rechner/BarrelShifter



Rechner/Beispielprozessor

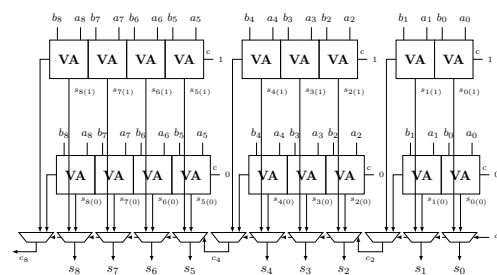


Rechner/CLA

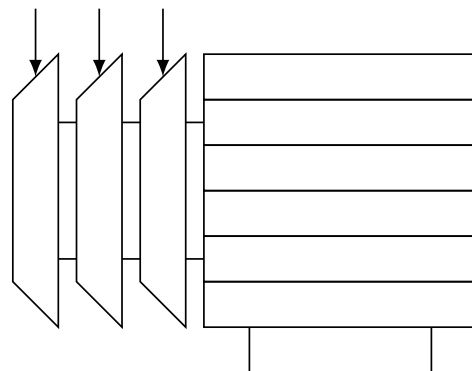


Rechner/CPLD

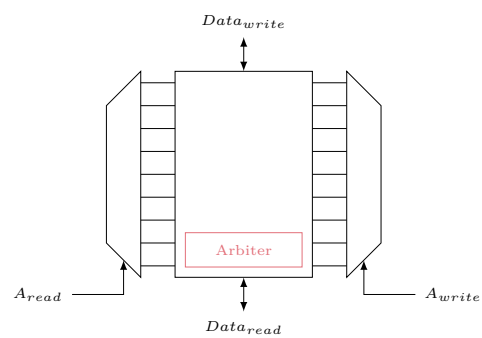
CSA - 9-bit Carry-Select-Addierer



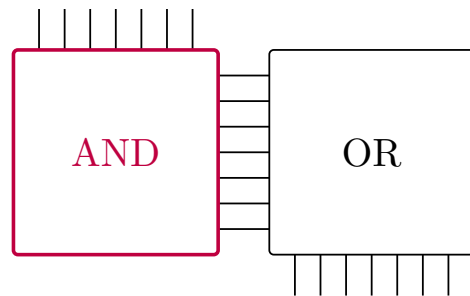
Rechner/CSA



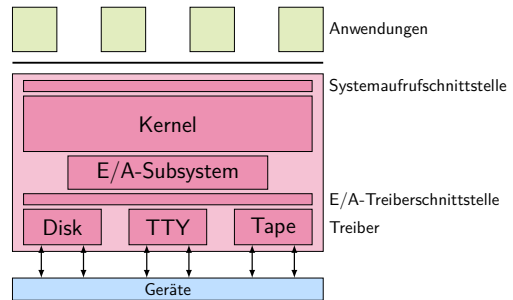
Rechner/DreiTorRegister



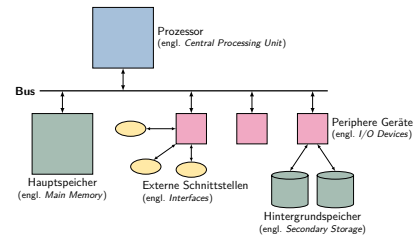
Rechner/Eintorspeicher



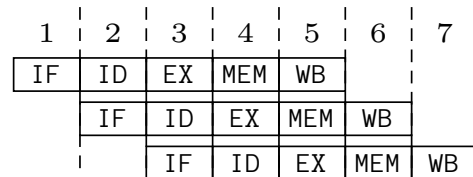
Rechner/GALPAL



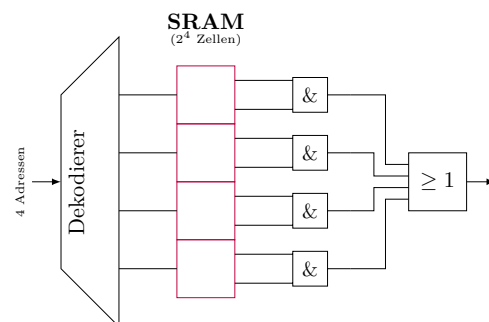
Rechner/Geraeteverwaltung



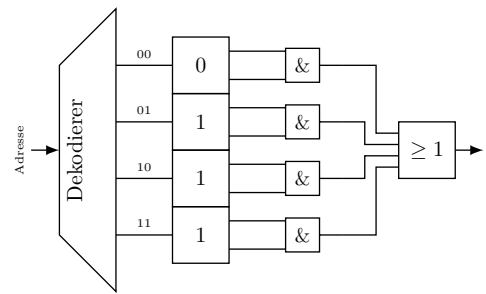
Rechner/HardwareSkizze



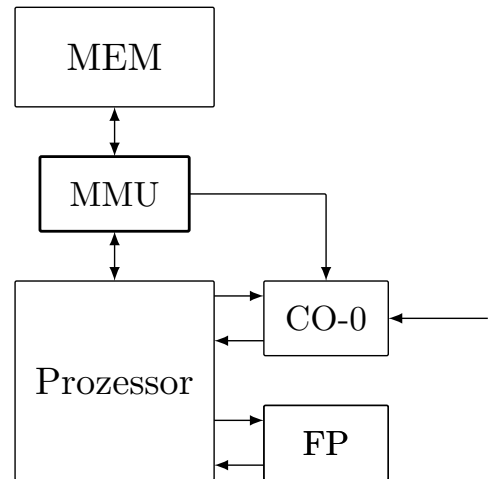
Rechner/ISA



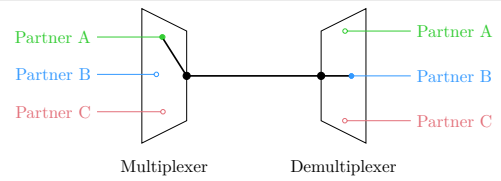
Rechner/LUT



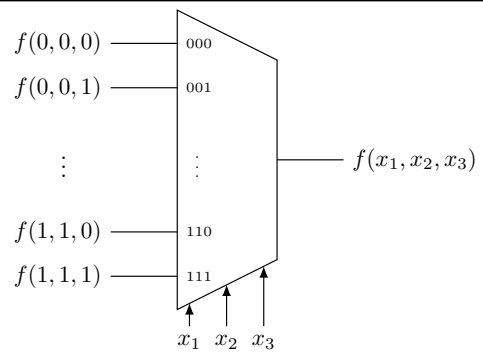
Rechner/LUT0der



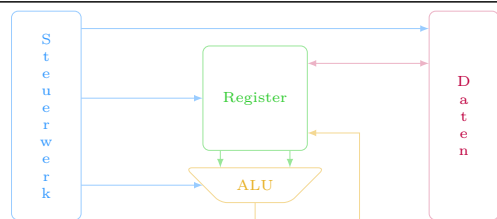
Rechner/MIPS



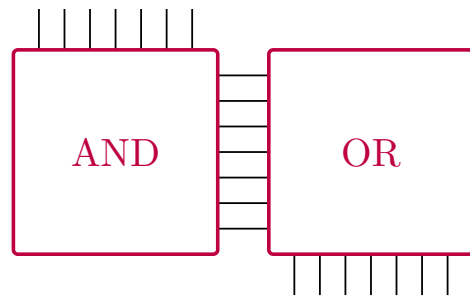
Rechner/MuxDemuxKommunikation



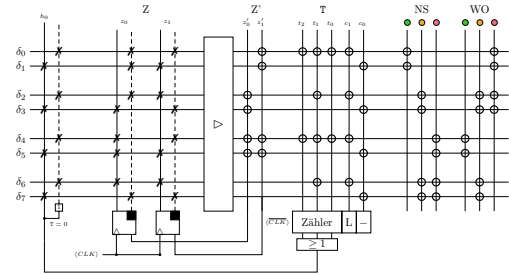
Rechner/MuxShannon



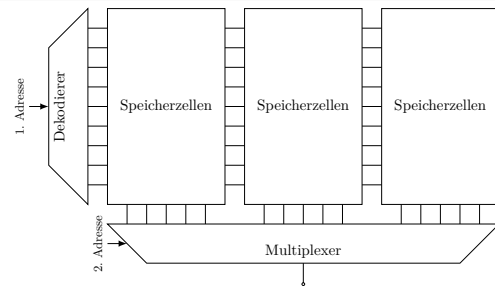
Rechner/NAdressmaschine



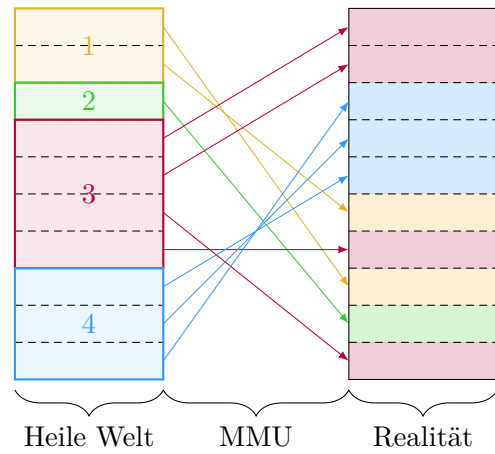
Rechner/PLA



Rechner/PLAZuAmpel

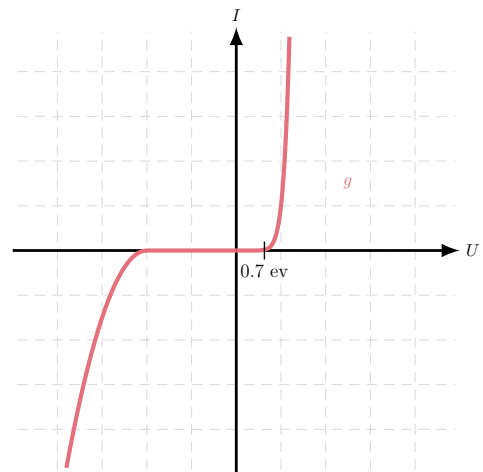


Rechner/PROM

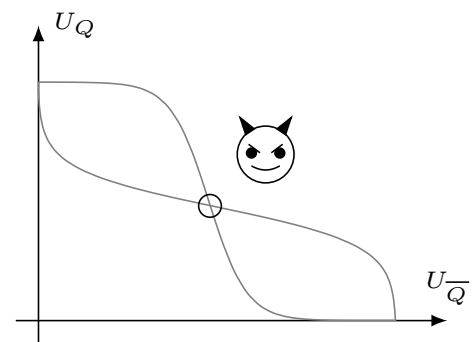


Rechner/Pages

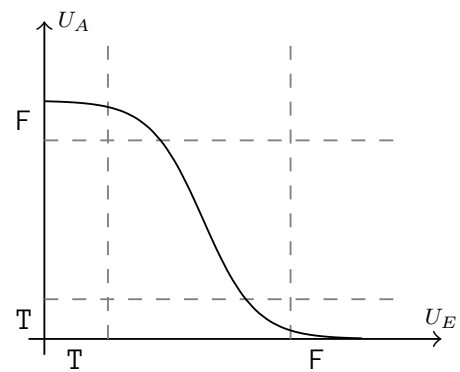




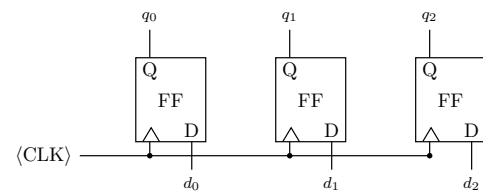
Rechner/Physik/DiodenStromstaerke



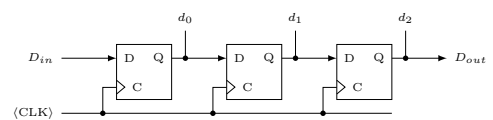
Rechner/Physik/Metastabil



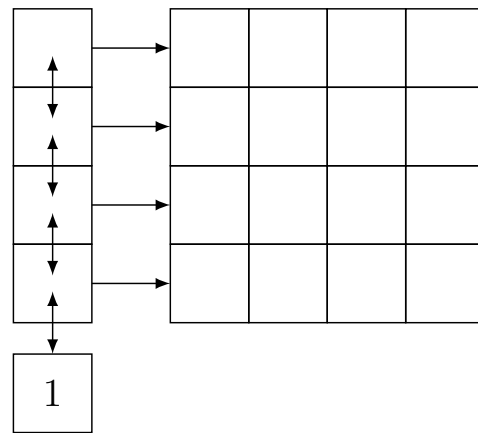
Rechner/Physik/TransistorStoertoleranz



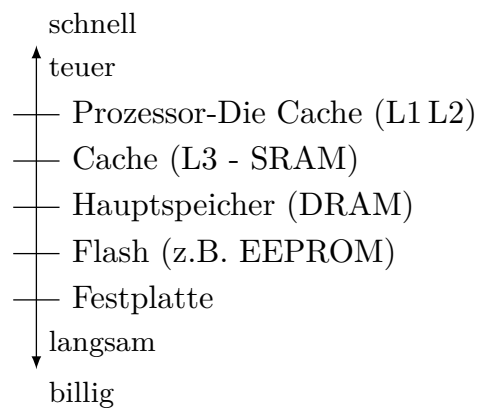
Rechner/RegisterParallel



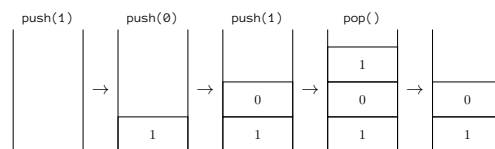
Rechner/RegisterSeriell



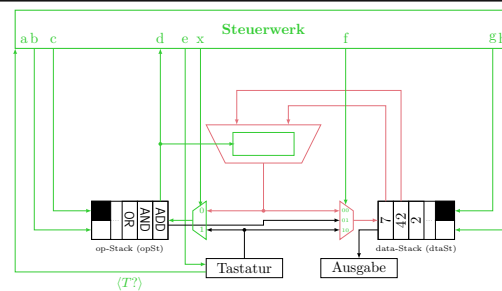
Rechner/Shiftregister



Rechner/Speicherhierarchie

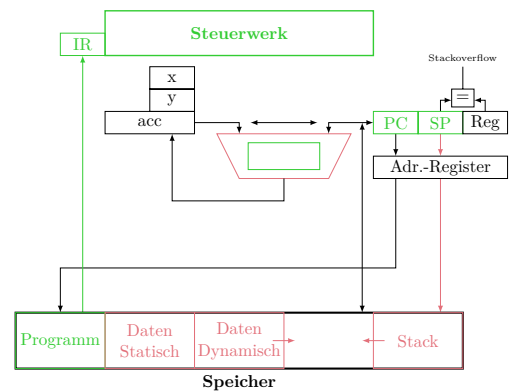


Rechner/StackExample

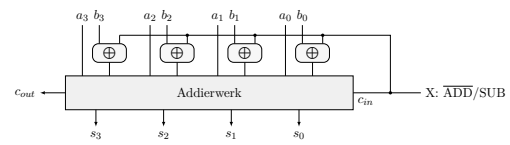


Rechner/Stackmaschine

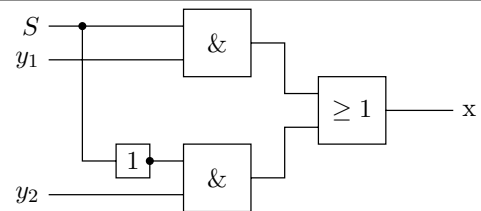
## Rechner/StackmaschineSimpler



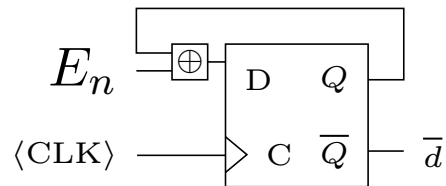
## Schaltkreis/Addier-Subtrahierer



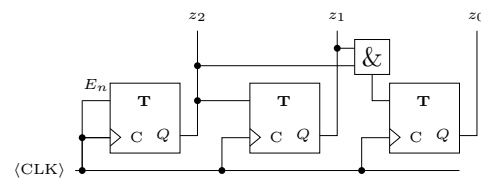
## Schaltkreis/Demultiplexer



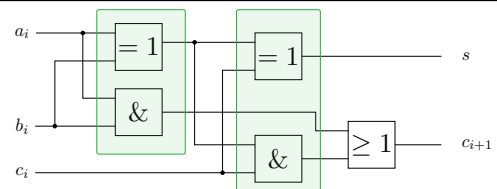
## Schaltkreis/SynchroneZaehlerDFF

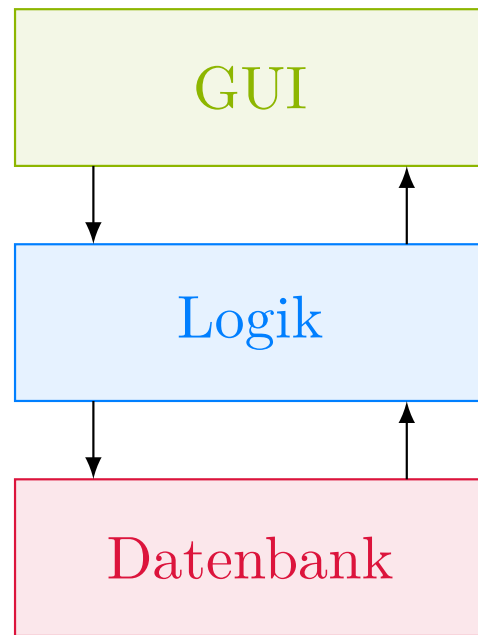


## Schaltkreis/SynchroneZaehlerTFF

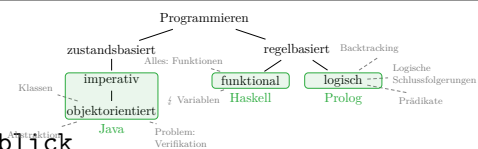


## Schaltkreis/Volladdierer

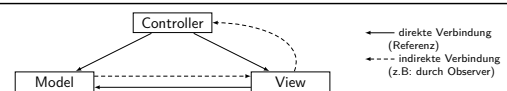




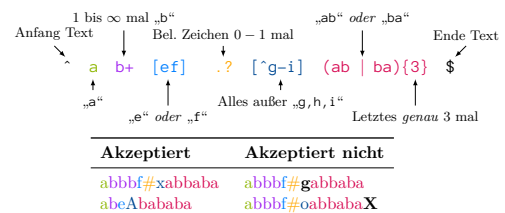
Software/DreiSchichtenArchitektur



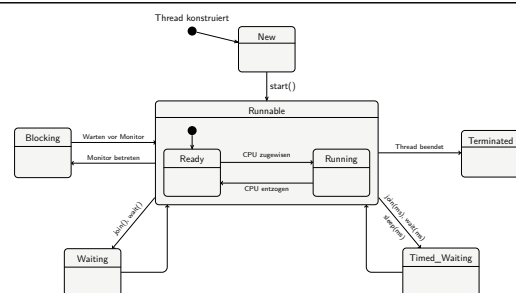
Software/Meta/ProgrammierparadigmenUeberblick



Software/ModelViewController

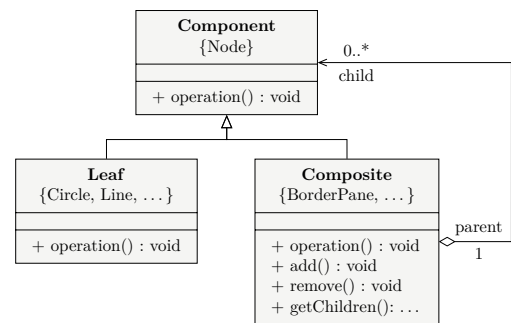


Software/RegexExample

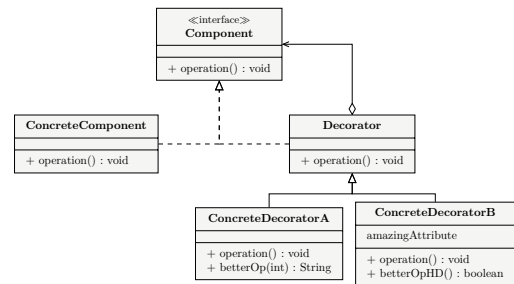


Software/ThreadStates

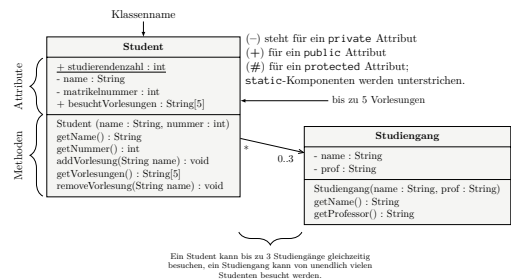
## Software/UMLCompositePattern



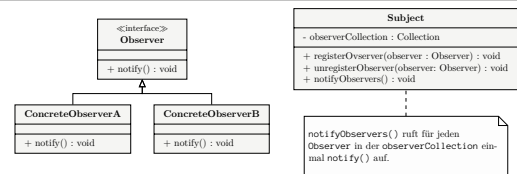
## Software/UMLDecoratorPattern



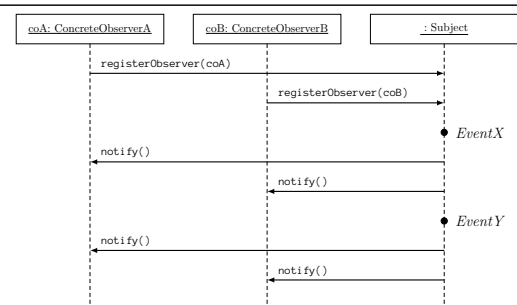
## Software/UMLExample



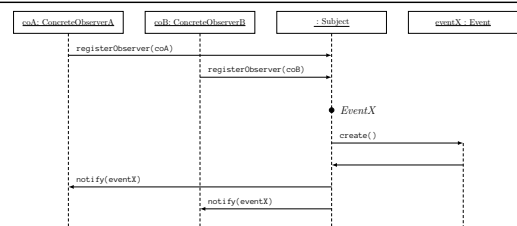
## Software/UMLObserverPattern

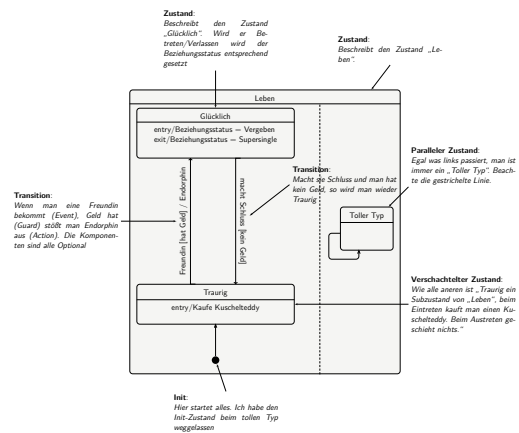


## Software/UMLSEQObserverPattern

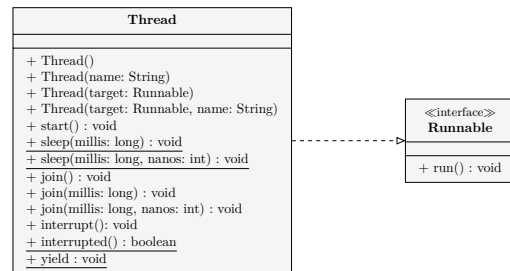


## Software/UMLSEQObserverPatternAdapted

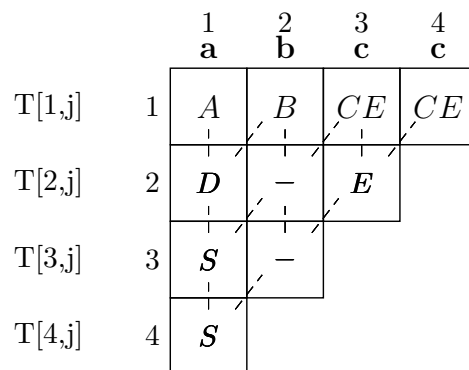




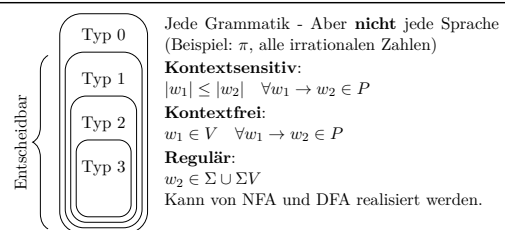
## Software/UMLStateDiagramExample



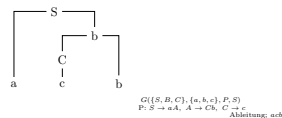
## Software/UMLThread



## Sprachen/CYKAlgorithmus



## Sprachen/ChomskyHierarchie



## Sprachen/Grammatik