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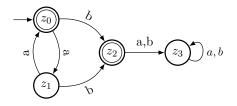
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# Pfad Ergebnis Allerlei/Teufel

Automat/AutomatDFA

Deterministic Finite Automaton

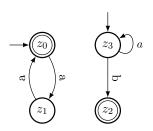


$$D = \begin{pmatrix} \text{Zustände} & \text{Eingabe} & \text{Übergangsfkt.} & \text{Start(s)} & \text{Endzust.} \\ Z & \Sigma & \Sigma & \delta & S & E \\ Menge & Alphabet, & Z \times \Sigma \to Z & S & E \\ \end{pmatrix}$$

$$T(D) = \left\{ x \in \Sigma^* \mid \hat{\delta}(S,x) \cap E \neq \varnothing \right\}$$

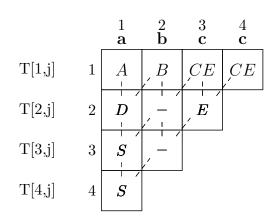
### Automat/AutomatNFA

### $N_{\rm ondeterministic} \ F_{\rm inite} \ A_{\rm utomaton}$

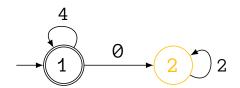


$$\begin{split} N = \begin{pmatrix} \text{Zustånde} & \text{Eingabe} \\ Z \\ Menge \end{pmatrix}, & \sum_{Alphabet}^{\Sigma}, \sum_{Z \times \Sigma \to Z^*}^{\delta}, \sum_{\subseteq Z}^{S}, \sum_{\subseteq Z}^{E} \end{pmatrix} \\ T(N) = \left\{ x \in \Sigma^* \mid \hat{\delta}(S, x) \cap E \neq \varnothing \right\} \end{split}$$

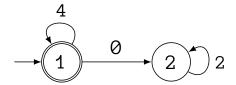
### Automat/CYKAlgorithmus



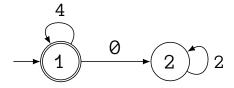
Automat/Demo-1



Automat/Demo-2

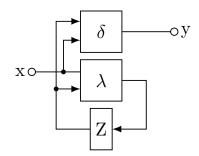


Automat/Demo



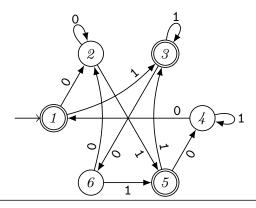
# Isch bin a Hädder!

### Automat/MealyAutomat

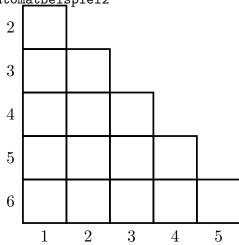


Ausgabe von Zustand & Eingabe abhängig

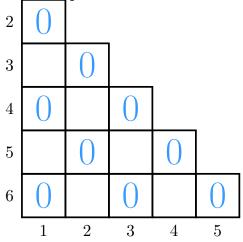
# Automat/MinimalautomatBeispiel/MinimalautomatBeispiel1



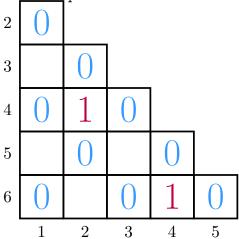
 ${\tt Automat/Minimal automatBeispiel/Minimal autom} \underline{{\tt atBeispiel2}}$ 



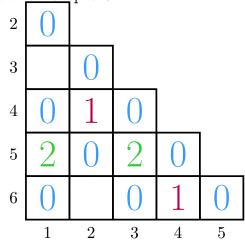
Automat/MinimalautomatBeispiel/MinimalautomatBeispiel3



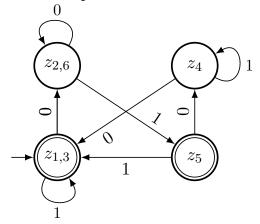
 ${\tt Automat/Minimal automatBeispiel/Minimal autom} \underline{{\tt atBeispiel4}}$ 



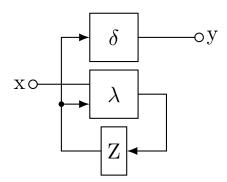
 ${\tt Automat/Minimal automatBeispiel/Minimal autom} \underline{{\tt atBeispiel5}}$ 



 ${\tt Automat/Minimal automatBeispiel/Minimal automatBeispiel 6}$ 

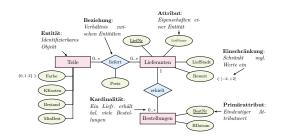


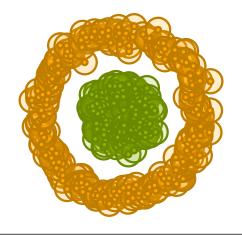
Automat/MooreAutomat



Ausgabe nur vom Zustand abhängig

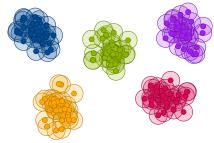
Datenbanken/ERMExample





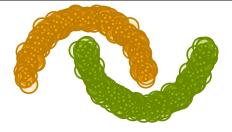
# Eigene/Proseminar/Cluster/en-circles

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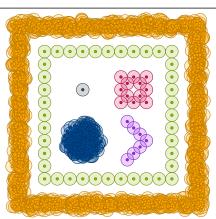
# Eigene/Proseminar/Cluster/en-clusters

pdf

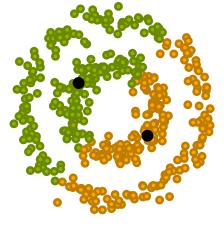


# Eigene/Proseminar/Cluster/en-moons

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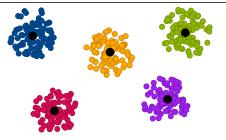


Eigene/Proseminar/Cluster/en-special



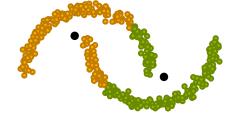
# Eigene/Proseminar/Cluster/km-circles

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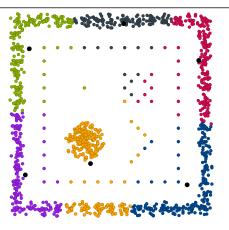
# Eigene/Proseminar/Cluster/km-clusters

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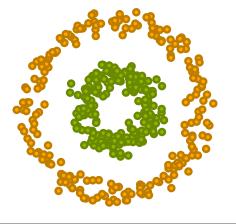


# Eigene/Proseminar/Cluster/km-moons

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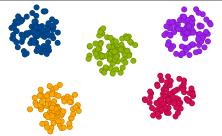


# Eigene/Proseminar/Cluster/km-special



# Eigene/Proseminar/Cluster/kn-circles

pdf



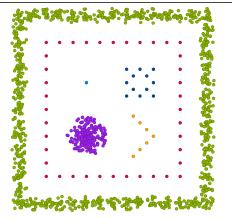
# Eigene/Proseminar/Cluster/kn-clusters

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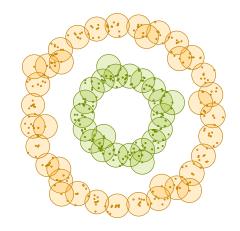


# Eigene/Proseminar/Cluster/kn-moons

pdf

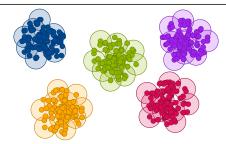


# Eigene/Proseminar/Cluster/kn-special



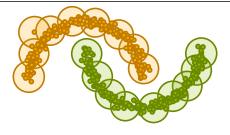
### Eigene/Proseminar/Cluster/rolf-circles

pd



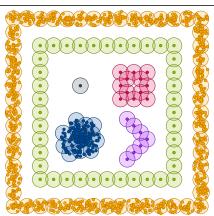
# Eigene/Proseminar/Cluster/rolf-clusters

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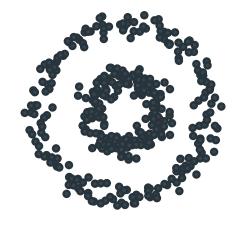


### Eigene/Proseminar/Cluster/rolf-moons

pd

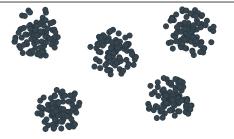


Eigene/Proseminar/Cluster/rolf-special



# Eigene/Proseminar/Cluster/thumb-circles

pdf



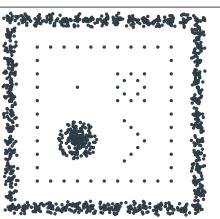
# Eigene/Proseminar/Cluster/thumb-clusters

pdf



# Eigene/Proseminar/Cluster/thumb-moons

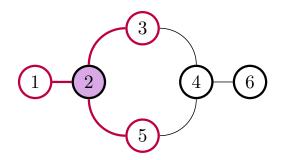
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# Eigene/Proseminar/Cluster/thumb-special

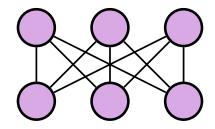
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 ${\tt Graphen/GraphNachbarschaftGrad}$ 



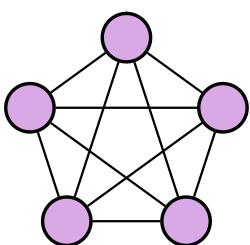
Graphen/GraphNichtPlanarK33

 $K_{3,3}$ 

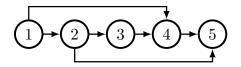


Graphen/GraphNichtPlanarK5



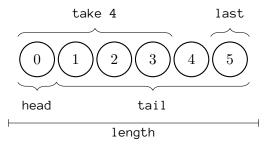


Graphen/GraphTopologie

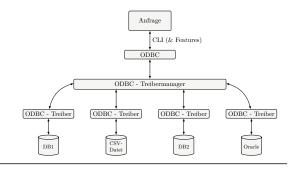


# Graphen/GraphWegPfad 3 6 $\widehat{5}$ Graphen/GraphZyklus 5 Haskell/HaskellTypen **Eq** (==), (/=) Show show, ... Read Ord (>), (<), (>=), (<=), min, max Num (+), (-), (\*), (signum), ... Bounded Enum succ, pred Fractional Real RealFrac round, ceiling, floor, ... Integral Floating RealFloat

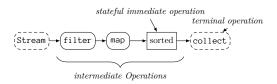
### Haskell/Listenoperationen



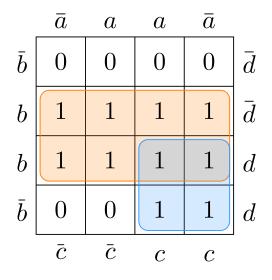
### ${\tt Java/ODBCSchematisch}$



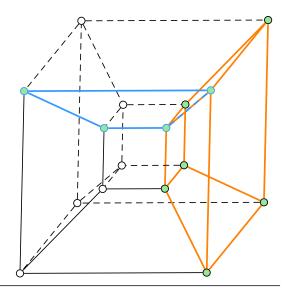
### Java/StreamDemo



### Logik/KVDiagramm



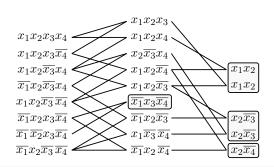
Logik/KVWuerfel



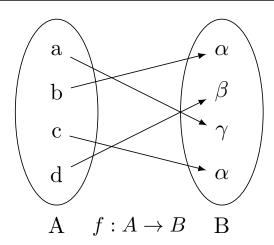
Logik/QuineMCCluskeyTabelle

	1	2	3	4	5	6	7	8
$x_1x_2$	+	+	+		+			
$x_2\overline{x_3}$			+	+	+			+
$x_2\overline{x_4}$		+			+	+		+
$\overline{x_1}x_3\overline{x_4}$						+	+	

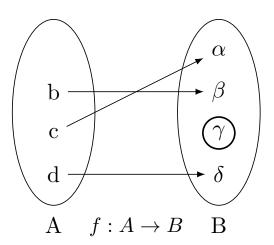
 ${\tt Logik/Quine MCCluskey Zusammen fassen}$ 



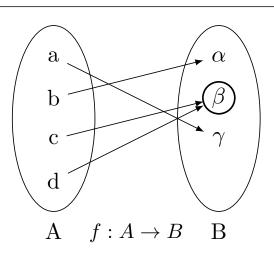
Mengen/FunktionBijektiv



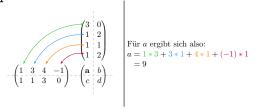
### Mengen/FunktionInjektiv



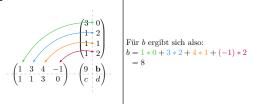
### Mengen/FunktionSurjektiv

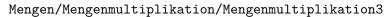


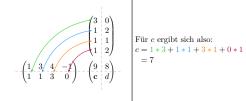
### ${\tt Mengen/Mengenmultiplikation/Mengenmultiplikation1}$



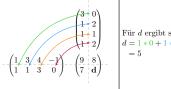
Mengen/Mengenmultiplikation/Mengenmultiplikation2





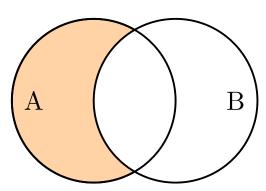


Mengen/Mengenmultiplikation/Mengenmultiplikation4

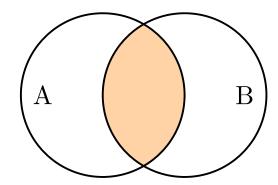




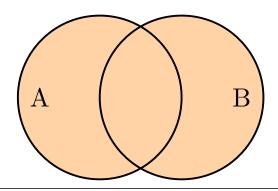
Mengen/VennDifferenz



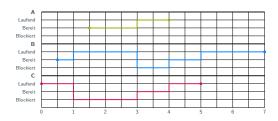
Mengen/VennSchnitt



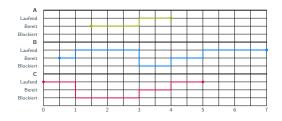
Mengen/VennVereinigung



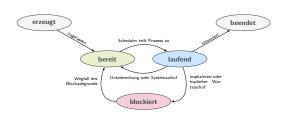
### Prozesse/FCFS-WorstCase



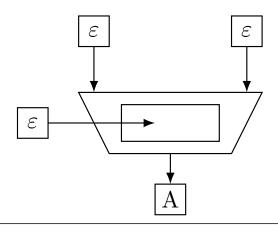
### Prozesse/FCFS



### Prozesse/Prozesszustaende



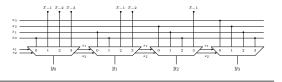
### Rechner/ALU



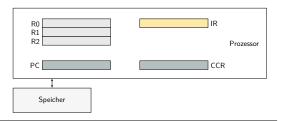
### Rechner/AmpelPLA

	Zı	ıstan	nd	Fol	gez.	NS				WO		
δ	$h_0$	$z_0$	$z_1$	$z'_0$	$z'_1$	•	0	•	•	0	•	T
$\delta_0$	0	0	0	0	1	•	0	0	0	0	0	$7 \Rightarrow h'_0 = 1$
$\delta_1$	1	0	1	0	1	•	0	0	0	0	0	T - 1
$\delta_3$	0	0	1	1	0	0	0	0	0	0	0	$2 \Rightarrow h'_0 = 1$
$\delta_4$	1	1	0	1	0	0	0	0	0	0	0	T - 1
$\delta_6$	0	1	0	1	1	0	0	0	•	0	0	$7 \Rightarrow h'_0 = 1$
$\delta_7$	1	1	1	1	1	0	0	0	•	0	0	T - 1
$\delta_9$	0	1	1	0	0	0	0	0	0	0	0	$2 \Rightarrow h'_0 = 1$
$\delta_{10}$	1	0	0	0	0	0	0	0	0	0	0	T - 1

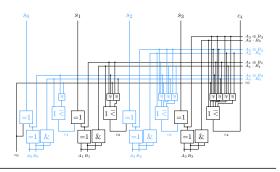
### Rechner/BarrelShifter



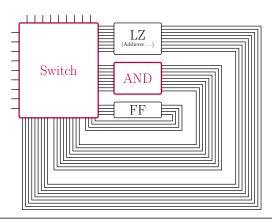
# Rechner/Beispielprozessor



### Rechner/CLA

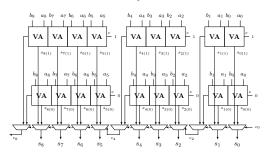


# Rechner/CPLD

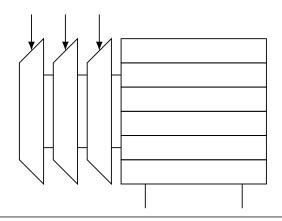


### Rechner/CSA

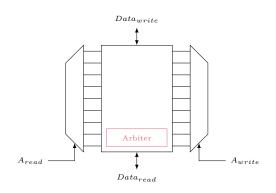
CSA - 9-bit Carray-Select-Addierer



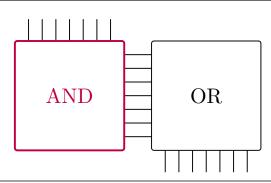
# Rechner/DreiTorRegister



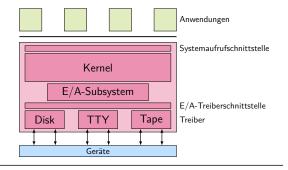
# Rechner/Eintorspeicher



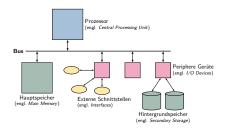
### Rechner/GALPAL



### Rechner/Geraeteverwaltung



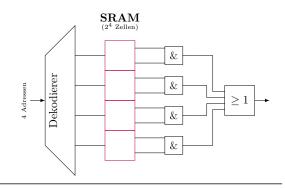
### Rechner/HardwareSkizze



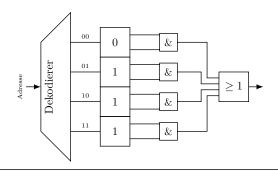
### Rechner/ISA



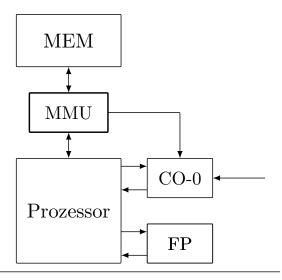
### Rechner/LUT



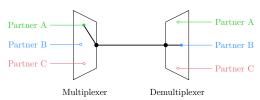
### Rechner/LUTOder



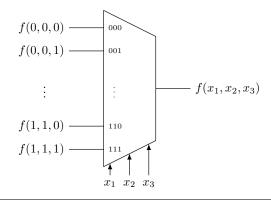
### Rechner/MIPS



### Rechner/MuxDemuxKommunikation



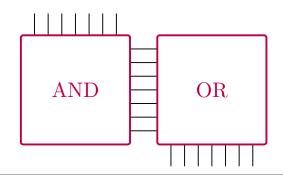
### Rechner/MuxShannon



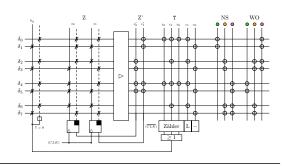
### Rechner/NAdressmaschiene



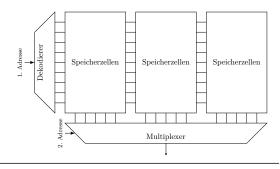
### Rechner/PLA



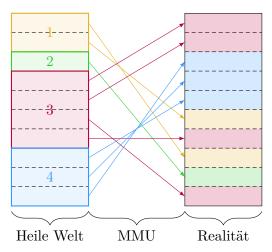
# Rechner/PLAZuAmpel



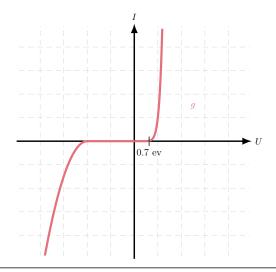
# Rechner/PROM



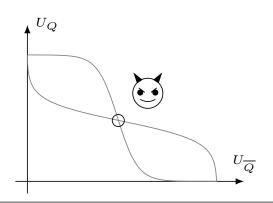
# Rechner/Pages



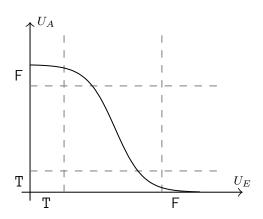
Rechner/Physik/DiodenStromstaerke



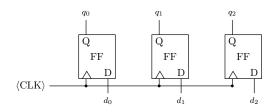
Rechner/Physik/Metastabil



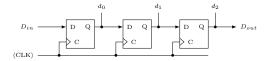
Rechner/Physik/TransistorStoertoleranz



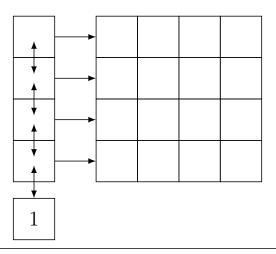
Rechner/RegisterParallel



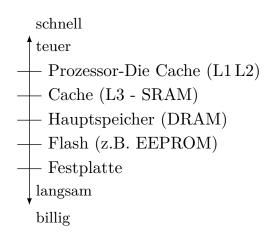
### Rechner/RegisterSeriell



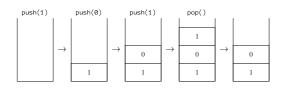
### Rechner/Shiftregister



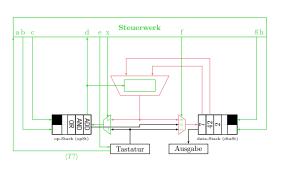
# Rechner/Speicherhierarchie



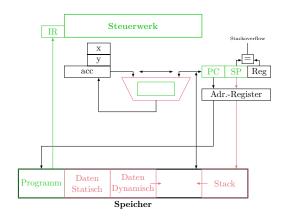
### Rechner/StackExample



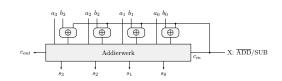
### Rechner/Stackmaschiene



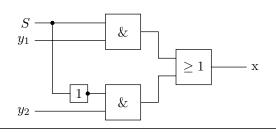
# Rechner/StackmaschieneSimpler



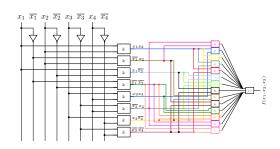
### Schaltkreis/Addier-Subtrahierer



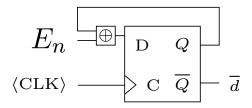
### Schaltkreis/Demultiplexer



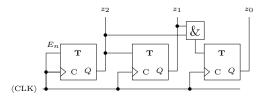
# Schaltkreis/KomplexerSchaltkreis



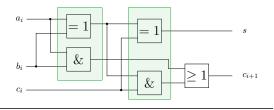
# Schaltkreis/SynchronzaehlerDFF



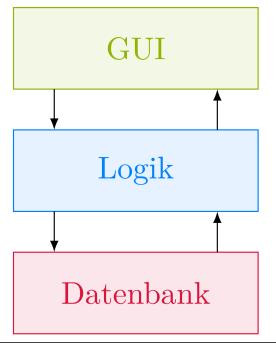
### Schaltkreis/SynchronzaehlerTFF



### Schaltkreis/Volladdierer



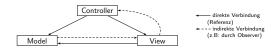
### Software/DreiSchichtenArchitektur



### ${\tt Software/Meta/ProgrammierparadigmenUeberblick}$



### Software/ModelViewController

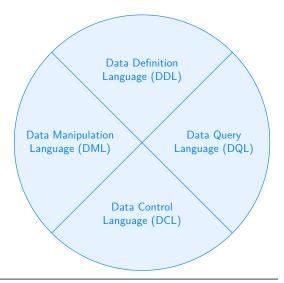


### Software/RegexExample

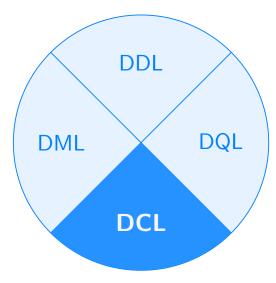


Akzeptiert	Akzeptiert nicht
abbbf#xabbaba	abbbf#gabbaba
abeAbababa	$abbbf\#oabbaba\mathbf{X}$

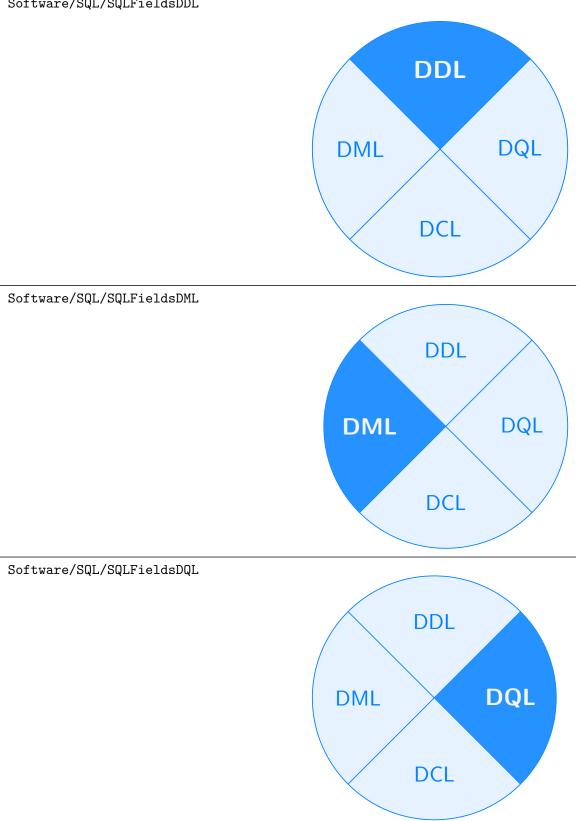
### Software/SQL/SQLFields



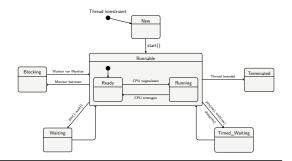
### Software/SQL/SQLFieldsDCL



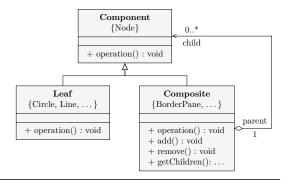
# Software/SQL/SQLFieldsDDL



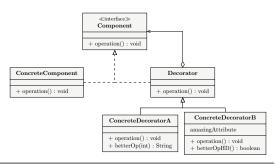
### Software/ThreadStates



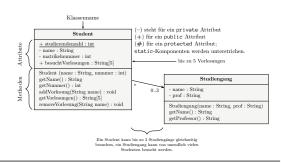
### Software/UMLCompositePattern



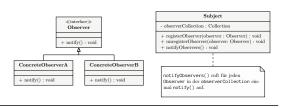
### Software/UMLDecoratorPattern



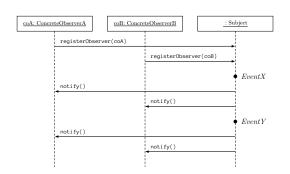
### Software/UMLExample



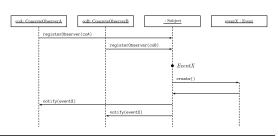
### Software/UMLObserverPattern



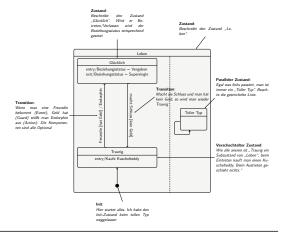
### Software/UMLSEQObserverPattern



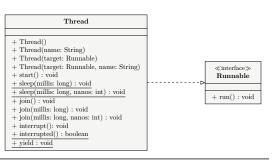
### Software/UMLSEQObserverPatternAdapted



### Software/UMLStateDiagramExample



### Software/UMLThread



```
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 Sprachen/CYKAlgorithmus
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                                                                               T[3,j]
                                                                                                        S
                                                                                                 3
                                                                               T[4,j]
                                                                                                 4
                                                                                                        S
Sprachen/ChomskyHierarchie
                                                                                                  Jede Grammatik - Aber nicht jede Sprache (Beispiel: \pi,alle irrationalen Zahlen)
                                                                                       Typ 0
                                                                                                  Kontextsensitiv: |w_1| \le |w_2| \quad \forall w_1 \to w_2 \in P
                                                                                       \mathrm{Typ}\ 1
                                                                              Entscheidbar
                                                                                                  Kontextfrei: w_1 \in V \quad \forall w_1 \rightarrow w_2 \in P
                                                                                       Typ 2
                                                                                                  Regulär:
                                                                                       Typ 3
                                                                                                  w_2 \in \Sigma \cup \Sigma V
                                                                                                  Kann von NFA und DFA realisiert werden.
Sprachen/Grammatik
                                                                                               \begin{split} G(\{S,B,C\},\{a,b,c\},P,S) \\ \text{P: } S \rightarrow aA, \ A \rightarrow Cb, \ C \rightarrow c \\ \text{Ableitung; } acb \end{split}
```

₩ Komme