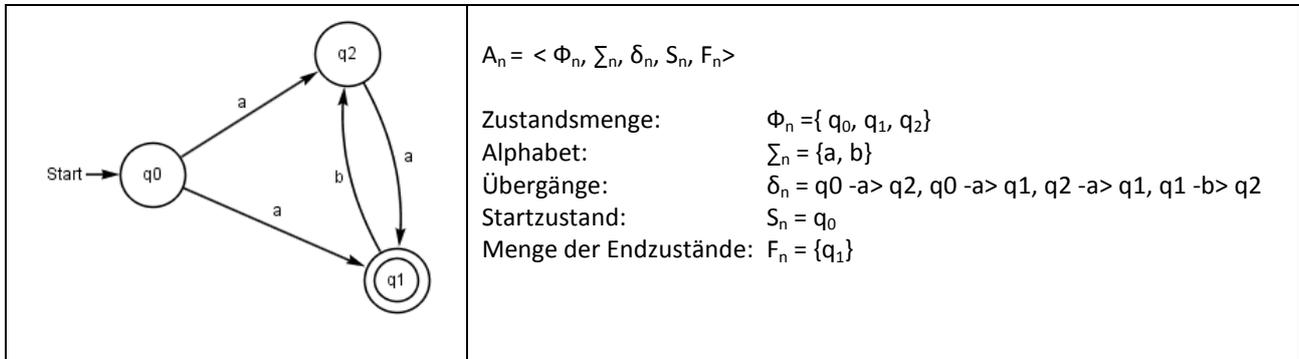


NDEA -> DEA

Umwandlung eines nichtdeterministischen endlichen Automaten (NDEA) in einen deterministischen endlichen Automaten (DEA) nach Klabunde 1998.

1. Zustandsmenge, Alphabet, Übergänge, Startzustand und Menge der Endzustände des NDEA aufschreiben:



2. Die Potenzmenge der Zustandsmenge von A_n wird als neue Zustandsmenge gewählt, d.h. für einen A_d gilt:
 $\Phi_d = P(\Phi_n)$

Zustandsmenge von NDEA $\Phi_n = \{q_0, q_1, q_2\}$	Zustandsmenge von DEA $\Phi_d = P(\Phi_n)$ $\Phi_d = \{ \{ \}, \{q_0\}, \{q_1\}, \{q_2\}, \{q_0, q_1\}, \{q_0, q_2\}, \{q_1, q_2\}, \{q_0, q_1, q_2\} \}$
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3. In dem neu entstandenen DEA werden die Übergänge δ_d zwischen den Zuständen wie folgt eingetragen:
 $\delta_d(\{q_1, \dots, q_n\}, \chi) = \{p_1, \dots, p_n\}$

	Übergänge $\delta_d(\{q_1, \dots, q_n\}, \chi) = \{p_1, \dots, p_n\}$																
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">$\delta(\{q_0, q_1, q_2\}, a) = \{q_1, q_2\}$</td> <td style="width: 50%;">$\delta(\{q_0, q_1, q_2\}, b) = \{q_2\}$</td> </tr> <tr> <td>$\delta(\{q_0, q_2\}, a) = \{q_1, q_2\}$</td> <td>$\delta(\{q_0, q_2\}, b) = \{ \}$</td> </tr> <tr> <td>$\delta(\{q_0, q_1\}, a) = \{q_1, q_2\}$</td> <td>$\delta(\{q_0, q_1\}, b) = \{q_2\}$</td> </tr> <tr> <td>$\delta(\{q_1, q_2\}, a) = \{q_1\}$</td> <td>$\delta(\{q_1, q_2\}, b) = \{q_2\}$</td> </tr> <tr> <td>$\delta(\{q_2\}, a) = \{q_1\}$</td> <td>$\delta(\{q_2\}, b) = \{ \}$</td> </tr> <tr> <td>$\delta(\{q_1\}, a) = \{ \}$</td> <td>$\delta(\{q_1\}, b) = \{q_2\}$</td> </tr> <tr> <td>$\delta(\{q_0\}, a) = \{q_1, q_2\}$</td> <td>$\delta(\{q_0\}, b) = \{ \}$</td> </tr> <tr> <td>$\delta(\{ \}, a) = \{ \}$</td> <td>$\delta(\{ \}, b) = \{ \}$</td> </tr> </table>	$\delta(\{q_0, q_1, q_2\}, a) = \{q_1, q_2\}$	$\delta(\{q_0, q_1, q_2\}, b) = \{q_2\}$	$\delta(\{q_0, q_2\}, a) = \{q_1, q_2\}$	$\delta(\{q_0, q_2\}, b) = \{ \}$	$\delta(\{q_0, q_1\}, a) = \{q_1, q_2\}$	$\delta(\{q_0, q_1\}, b) = \{q_2\}$	$\delta(\{q_1, q_2\}, a) = \{q_1\}$	$\delta(\{q_1, q_2\}, b) = \{q_2\}$	$\delta(\{q_2\}, a) = \{q_1\}$	$\delta(\{q_2\}, b) = \{ \}$	$\delta(\{q_1\}, a) = \{ \}$	$\delta(\{q_1\}, b) = \{q_2\}$	$\delta(\{q_0\}, a) = \{q_1, q_2\}$	$\delta(\{q_0\}, b) = \{ \}$	$\delta(\{ \}, a) = \{ \}$	$\delta(\{ \}, b) = \{ \}$
$\delta(\{q_0, q_1, q_2\}, a) = \{q_1, q_2\}$	$\delta(\{q_0, q_1, q_2\}, b) = \{q_2\}$																
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4. Alle Mengen, der Potenzmenge, die Endzustände des NDEA enthalten

Endzustände des NDEA $F_n = \{q_1\}$	Mengen der Potenzmengen, die q_1 enthalten $F_d = \{ \{q_1\}, \{q_0, q_1\}, \{q_1, q_2\}, \{q_0, q_1, q_2\} \}$
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5. „Startzustand bleibt identisch“ (Klabunde)

Startzustand NDEA $S_n = q_0$	Startzustand DEA $S_d = q_0$
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6. NDEA -> DEA

