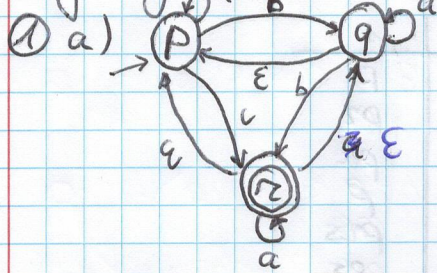


Übungen 4: Taten & Automaten



b) $\epsilon\text{-closure}(p) = \{p\}$

$\epsilon\text{-closure}(q) = \{p, q\}$

$\epsilon\text{-closure}(r) = \{p, q, r\}$

c)

	a	b	c
p	p	qr	pqr
q	qr	qr	pqr
pqr*	pqr	qr	pqr

pqr

② $\epsilon\text{-NFA}$:

	ϵ	a	b	c
$\rightarrow p$	\emptyset	$\{p, q\}$	\emptyset	\emptyset
q^*	$\{r\}$	\emptyset	$\{p, q\}$	\emptyset
r	\emptyset	$\{r, s\}$	\emptyset	$\{r, q\}$
s	$\{r\}$	\emptyset	\emptyset	$\{s\}$

$\epsilon\text{-closure}(p) = \emptyset$

$\epsilon\text{-closure}(q) = \{r, s\}$

$\epsilon\text{-closure}(r) = \emptyset$

$\epsilon\text{-closure}(s) = \{r\}$

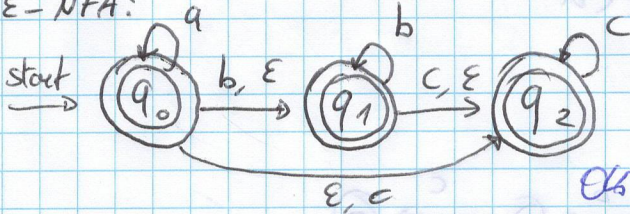
DFA:

	a	b	cc
p	pqr	\emptyset	\emptyset
pqr*	r	pqr	rcq
r	rs	\emptyset	rq
pqr*	pqr	pqr	prs
rs	rs	\emptyset	qrs
rq*	rs	pqr	rq
qrs	rs	pr	qrs
\emptyset	\emptyset	\emptyset	\emptyset

start pqr

	a	b	c
$\rightarrow p$	pqr	\emptyset	qrs
*qrs	rs	pqr	qrs
rs	rs	\emptyset	qrs
*pqr	pqr	pqr	qrs

③ $\epsilon\text{-NFA}$:



DFA:

