

Example 1: This is a T<sub>E</sub>Xfile.

$$(f * g) = \int_{-\infty}^{\infty} f\tau g(t - \tau) d\tau$$

Example 2: *As NFA defined on Page 54 of ITC*  
textbook.

$Q = \{q_1, q_2, q_3, q_4\}$   
 $\Sigma = \{0, 1\}$   
 $F = \{q_4\}$   
 $q_0 = q_1$   
 $\delta = \{((q_1, 0), \{q_1\}), ((q_1, 1), \{q_1, q_2\}), ((q_1, \epsilon), \phi),$   
 $((q_2, 0), \{q_3\}), ((q_2, 1), \phi), ((q_2, \epsilon), \{q_3\}),$   
 $((q_3, 0), \phi), ((q_3, 1), \{q_4\}), ((q_3, \epsilon), \phi),$   
 $((q_4, 0), \{q_4\}), ((q_4, 1), \{q_4\}), ((q_4, \epsilon), \phi)\}$

Transition Function in Table form:

	0	1	$\epsilon$
$q_1$	$\{q_1\}$	$\{q_1, q_2\}$	$\phi$
$q_2$	$\{q_3\}$	$\phi$	$\{q_3\}$
$q_3$	$\phi$	$\{q_4\}$	$\phi$
$q_4$	$\{q_4\}$	$\{q_4\}$	$\phi$

NFA in pictorial form:

