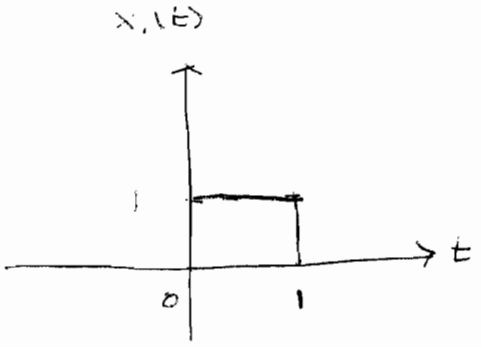
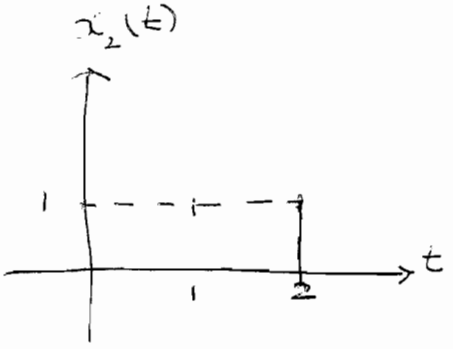
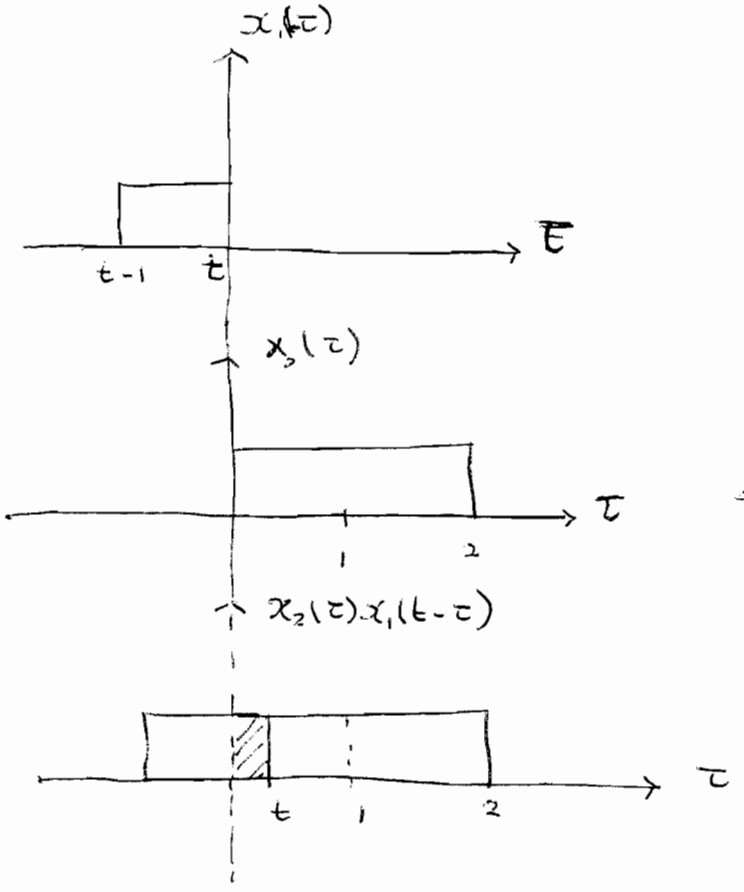
ECE - 314, Fall 2008
Signals and Systems

Example : Convolution



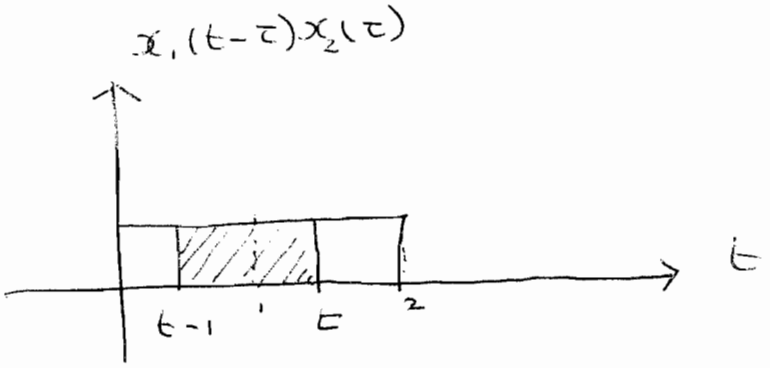




For $t \leq 0$:
there is no overlap between $x_1(t-\tau)$, $x_2(\tau)$

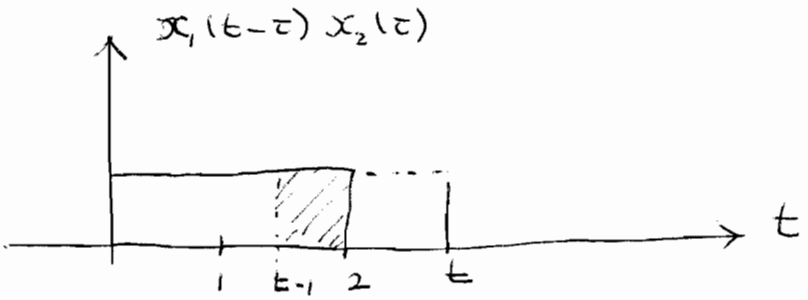
$\Rightarrow x_1(t) * x_2(t) = 0$

For $0 < t < 1$
Area of overlap $= 1(t-0) = t$



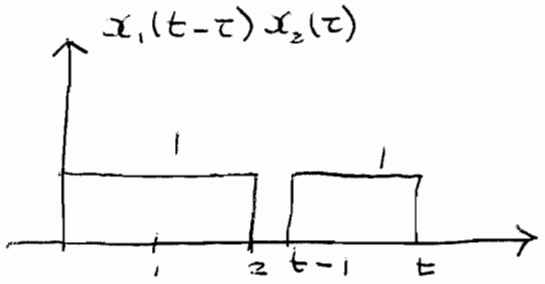
Area of overlap for $1 < t < 2$

$= (1)(t-(t-1)) = 1$



Area of overlap :

$(1)(2-(t-1)) = 3-t$



No overlap for

$t-1 > 2$ or $t > 3$