Truth Conditions

$M,n \models p$	iff	$n \in V(p)$
$M,n \models \neg\varphi$	iff	not $M,n \models \varphi$
$M,n \models \varphi \wedge \psi$	iff	$M,n \models \varphi$ and $M,n \models \psi$
$M,n \models \bigcirc\varphi$	iff	$M,n+1 \models \varphi$
$M,n \models \Box\varphi$	iff	$\forall m \geq n, M,m \models \varphi$
$M,n \models \Diamond\varphi$	iff	$\exists m \geq n, M,m \models \varphi$

LTL Axioms

*LTL*1	φ	(φ a prop. taut.)
*LTL*2	$\bigcirc(\varphi \rightarrow \psi) \rightarrow (\bigcirc\varphi \rightarrow \bigcirc\psi)$	
*LTL*3	$\neg\bigcirc\varphi \leftrightarrow \bigcirc\neg\varphi$	
*LTL*4	$\Box\varphi \rightarrow (\varphi \wedge \bigcirc\Box\varphi)$	

Rules of Inference

MP	$\vdash \varphi, \vdash (\varphi \rightarrow \psi) \Rightarrow \vdash \psi$
Nec	$\vdash \varphi \Rightarrow \vdash \bigcirc\varphi$
Ind	$\vdash \varphi \rightarrow \psi, \vdash \varphi \rightarrow \bigcirc\varphi \Rightarrow \vdash \varphi \rightarrow \Box\psi$