

### Teoreme ale calculului propozitional clasic

- (A1)  $\varphi \rightarrow (\psi \rightarrow \varphi)$
- (A2)  $(\varphi \rightarrow (\psi \rightarrow \chi)) \rightarrow ((\varphi \rightarrow \psi) \rightarrow (\varphi \rightarrow \chi))$
- (A3)  $(\neg\psi \rightarrow \neg\varphi) \rightarrow (\varphi \rightarrow \psi)$
- (1)  $\vdash \varphi \rightarrow \varphi$
- (2)  $\vdash (\varphi \rightarrow \psi) \rightarrow ((\psi \rightarrow \chi) \rightarrow (\varphi \rightarrow \chi))$
- (3)  $\vdash (\varphi \rightarrow (\psi \rightarrow \chi)) \rightarrow (\psi \rightarrow (\varphi \rightarrow \chi))$
- (4)  $\vdash \varphi \rightarrow (\neg\varphi \rightarrow \psi)$
- (5)  $\vdash \neg\varphi \rightarrow (\varphi \rightarrow \psi)$
- (6)  $\vdash (\neg\neg\varphi \rightarrow \varphi)$
- (7)  $\vdash (\varphi \rightarrow \neg\neg\varphi)$
- (8)  $\vdash (\varphi \rightarrow \psi) \rightarrow (\neg\psi \rightarrow \neg\varphi)$
- (9)  $\vdash (\varphi \rightarrow \neg\varphi) \rightarrow \neg\varphi$
- (10)  $\vdash (\neg\varphi \rightarrow \varphi) \rightarrow \varphi$
- (11)  $\vdash \varphi \rightarrow (\neg\psi \rightarrow \neg(\varphi \rightarrow \psi))$
- (12)  $\vdash \varphi \rightarrow (\varphi \vee \psi)$
- (13)  $\vdash \psi \rightarrow (\varphi \vee \psi)$
- (14)  $\vdash \varphi \vee \psi \rightarrow \psi \vee \varphi$
- (15)  $\vdash (\varphi \rightarrow \chi) \rightarrow ((\psi \rightarrow \chi) \rightarrow (\varphi \vee \psi \rightarrow \chi))$
- (16)  $\vdash \varphi \wedge \psi \rightarrow \varphi$
- (17)  $\vdash \varphi \wedge \psi \rightarrow \psi$
- (18)  $\vdash (\chi \rightarrow \varphi) \rightarrow ((\chi \rightarrow \psi) \rightarrow (\chi \rightarrow \varphi \wedge \psi))$
- (19)  $\vdash \varphi \wedge \psi \rightarrow \psi \wedge \varphi$
- (20)  $\vdash \varphi \rightarrow (\psi \rightarrow \varphi \wedge \psi)$
- (21)  $\vdash (\varphi \rightarrow (\psi \rightarrow \chi)) \rightarrow (\varphi \wedge \psi \rightarrow \chi)$
- (22)  $\vdash (\varphi \wedge \psi \rightarrow \chi) \rightarrow (\varphi \rightarrow (\psi \rightarrow \chi))$
- (23)  $\vdash (\varphi \rightarrow \psi) \rightarrow (\varphi \vee \chi \rightarrow \psi \vee \chi)$
- (24)  $\vdash (\varphi \rightarrow \psi) \rightarrow (\varphi \wedge \chi \rightarrow \psi \wedge \chi)$
- (25)  $\vdash (\varphi \wedge \psi \rightarrow \chi) \rightarrow (\varphi \wedge \neg\chi \rightarrow \neg\psi)$
- (26)  $\vdash \varphi \vee \neg\varphi$
- (27)  $\vdash ((\varphi \rightarrow \chi) \wedge (\psi \rightarrow \delta)) \rightarrow (\varphi \wedge \psi \rightarrow \chi \wedge \delta)$
- (28)  $\vdash ((\varphi \rightarrow \chi) \wedge (\psi \rightarrow \delta)) \rightarrow (\varphi \vee \psi \rightarrow \chi \vee \delta)$
- (29)  $\vdash (\varphi \vee (\psi \vee \chi)) \leftrightarrow ((\varphi \vee \psi) \vee \chi)$
- (30)  $\vdash (\varphi \wedge (\psi \wedge \chi)) \leftrightarrow ((\varphi \wedge \psi) \wedge \chi)$
- (31)  $\vdash (\varphi \wedge (\psi \vee \chi)) \leftrightarrow ((\varphi \wedge \psi) \vee (\varphi \wedge \chi))$
- (32)  $\vdash (\varphi \vee (\psi \wedge \chi)) \leftrightarrow ((\varphi \vee \psi) \wedge (\varphi \vee \chi))$