# Lógica para a computação II

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**1** – FNP = $\exists x \forall y \, \forall z \, ((F(x) \land G(x)) \rightarrow (F(y) \land G(z)))$

FNS = $\forall y \, \forall z \, ((F(a) \land G(a)) \rightarrow (F(y) \land G(z)))$

**2** – FNP = $\exists x \exists y \, \forall z \, (((F(x) \rightarrow G(x)) \land F(y)) \rightarrow G(z))$

FNS = $\forall z(((F(a) \rightarrow G(a)) \land F(b)) \rightarrow G(z))$

**3** – FNP = $\exists x \exists y (F(x, y) \rightarrow F(a, a))$

FNS = $F(c, d) \rightarrow F(a, a)$

**4** – FNP = $\exists x \exists y \forall z \, ((P(x) \rightarrow C(x)) \land (C(y) \rightarrow V(y))) \rightarrow (P(z) \rightarrow V(z))$

FNS = $\forall z \, (((P(a) \rightarrow C(a)) \land (C(b) \rightarrow V(b))) \rightarrow (P(z) \rightarrow V(z)))$

**5** – FNP = $\exists x \forall y \, (F(y) \rightarrow F(x))$

FNS = $\forall y \, (F(y) \rightarrow F(a))$

**6** – FNP = $\exists x \exists y \, ((F(x) \lor G(x)) \rightarrow (F(y) \lor G(y)))$

FNS = $(F(a) \lor G(a)) \rightarrow (F(b) \lor G(b))$

**7** – FNP = $\exists x \forall y (F(x) \land \neg G(x)) \lor (F(y) \rightarrow G(y))$

FNS = $\forall y (F(a) \land \neg G(a)) \lor (F(y) \rightarrow G(y))$

**8** – FNP = $\exists x \forall y \forall z \exists w \exists u (((F(x) \rightarrow L(x, y)) \land (F(z) \land G(z))) \rightarrow (G(w) \land L(w, u)))$

FNS = $\forall y \forall z (((F(a) \rightarrow L(a, y)) \land (F(z) \land G(z))) \rightarrow (G(H(y, z) \land L(H(y, z), K(y,z)))$