INTRODUCTION TO LOGIC -
Homework # 6 - Due March 31

1 DERIVATIONS [60 POINTS]

Construct derivations for the following formulas:

(a) $\varphi \to (\psi \to (\varphi \wedge \psi))$

(b) $(\varphi \to (\psi \to \sigma)) \to (\psi \to (\varphi \to \sigma))$

(c) $((\varphi \to \psi) \to (\varphi \to \sigma)) \to (\varphi \to (\psi \to \sigma))$

2 SEMANTIC VALIDITY [30 POINTS]

Use the truth-table method to check that the formulas (a), (b) and (c) in Ex. 1 are all valid.

3 COMPARING [10 POINTS]

How do the approaches in Ex. 1 and Ex. 2 differ from one another? How are they similar? Do you think one is more convincing than the other?