Computer Science CSC 238H — Wednesday May 20 1998
St. George Campus — University of Toronto

Quiz #1

First Name: ______________________________

Last Name: ______________________________

Student Number: ____________________

1. [1 mark]
Represent the statement
"Oskar bought kumquats or headcheese (or both), but if he bought kumquats, then he did not buy gherkins"
as a formula ϕ using the propositional variables
G: Oskar bought gherkins,
H: Oskar bought headcheese, and
K: Oskar bought kumquats.

What is the value of ϕ under the truth value assignment $G = \bot, H = \top, K = \bot$?

Answer yes or no (but not both) to each of the following questions.

(i) Is the formula ϕ a tautology?

(ii) Is the formula ϕ satisfiable?

(iii) Is the formula ϕ a contradiction?