

CITS5501 Software Testing and Quality Assurance

Semester 1, 2020

1. Logic-based testing

1. What are the *clauses* in the predicates below?

a. $((f \leq g) \wedge (x > 0)) \vee (M \wedge (e < d + c))$

b. $G \vee ((m > a) \vee (s \leq o + n)) \wedge U$

Identify test inputs which will make each of the clauses *active*.

2. Suppose we have the following requirement for some piece of software:

“List the product codes for all wireless mice that either retail for more than \$100, or for which the store has more than 20 items. Also list non-wireless mice that retail for more than \$50.”

i. What would be an appropriate predicate we could use for specifying this requirement more precisely?

You may assume the existence of whatever methods or functions you need, but one choice is to assume we have a `Product` class with a `.retailPrice()` method, a `.category()` method (which returns a string such as “wireless mouse”, “wireless keyboard”, “non-wireless mouse”), and a `.quantityHeld()` method (which returns the quantity of this product in stock as an `int`).

ii. See if you can give Java code (or Python, if you prefer) for the predicate.