**SYSC 4101A**

**Lab 8**

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**Exercise 1**

**Question 1**

P = A or (B and not(C))

Major clause A: A determines P.

* **A=true,** B=false, C=false, P=true
* **A=false,** B=false, C=false, P=false

Major clause B: C must be false to determine P.

* A=true**, B=true**, C=false, P=true
* A=true**, B=false**, C=false, P=false

Major clause C: B must be true to determine P.

* A=true**,** B=true, **C=true**, P=false
* A=true**,** B=true, **C=false**, P=true

Test suite:

(true, false, false), (false, false, false), (true, true, false), (true, true, true)

**Question 2**

P = A or (B and not(C))

* UTP for A: (1, ?, ?) -> (1, 0, 0), (1, 1, 0), (1, 0, 1), (1, 1, 1)
* NFP for A: (0, ?, ?) -> (0, 0, 0), (0, 1, 0), (0, 0, 1), (0, 1, 1)
* UTP for Bnot(C): (?, 1, 1) -> (0, 1, 1), (1, 1, 1)
* NFP for B in Bnot(C): (?, 0, 1) -> (0, 0, 1), (1, 0, 1)
* NFP for C in Bnot(C): (? 1, 0) -> (0, 1, 0), (1, 1, 0)

Test suite:

(1, 0, 0), (1, 1, 0), (1, 0, 1), (1, 1, 1), (0, 0, 0), (0, 1, 0), (0, 0, 1), (0, 1, 1)