Assignment 3 Part A

CSED342 – Artificial Intelligence

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Q1) Pick the choice(s) where the First Order Logic sentence incorrectly represents its corresponding English sentence. [4 points]

* Choice a) There was a student at POSTECH who never did CSED342 assignment, but passed the class.

∃x,IsStudent(x,POSTECH) ∧ ¬DoesAssign(x,342) ⇒ Pass(x, 342)

It is true if there is anyone who is not a student at POSTECH or who does assignment of CSED342. (incorrect)

* Choice b) If a student dislikes Danny, they will fail the class.

∀x,Student(x) ∧ Dislikes(x,Danny) ⇒ Fail(x, 342)

It means “Everyone who is student and dislikes Danny will fail CSED 342 class. (correct)

* Choice c) All students at POSTECH who never did 342 assignment passed the class.

∀x,IsStudent(x, POSTECH) ∧ ¬DoesAssign(x, 342) ∧ Pass(x, 342)

It means “Everyone is a student at POSTECH and never did assignment of CSED342, and pass the CSED342.” (incorrect)

* The answer is Choice a and c.

Q2) Which of the following is true w.r.t the English sentences Choice a and Choice c in the previous question? [4 points]

* a c, c a, Both, Neither

a c is false, (a is true if there is anyone who is a student at POSTECH and never did assign, passed the class. But in c, everyone who is student at POSTECH and never did assign should passed the class. There could be students who is student at POSTECH and never did assign but fail the class.)

c a is false (If all students at POSTECH does assign, then c is still true, (c has implication) but in this case, a is false.)

* The answer is neither.