

CSE 494: Artificial Intelligence for Cyber Security Spring 2019

OYO HW 3: Logic (10 points)

1. Is this a valid sentence :

$\exists a, b \ a=b$ valid? (1point)

2. Represent the following sentences in first order logic, using a consistent vocabulary Vocabulary: (8 points)

Kid(x),

Plays(x, s, t): Kid x, sport s, time t,

Person(x),

Company(x),

Insured(x),

Insurance(x),

Expensive(x),

Buys(x, y, z): x buys y from z

Sells(x, y, z): x sells y to z

Some kids played football in December 2018.

Only one kid played football in November 2018.

No person would purchase an expensive insurance.

There is one company who sells insurances only to people who do not have a insurance.

3. Represent the sentence "All Indonesians eat the same vegetables" in predicate calculus (1 point).