Mathematics of Computer Science. - M.I.T. opencourseware

Abstract:
lecture was about a logical induction with proposition, predicate and axioms

For the English:
new terms I learned = comtemplate, lemma, bogus, moral(noun), recitation(school word), grail(holy), gist, polynomial

expression = taken for granted, made out of, grow exponentially

Lec 1. PROPOSITIONS:

Proposition is a statement that is either true || false

Truth table

Quantifier is a notation that shows [not, for all(universial), forsome(at least one, existential), IFF(necessary and sufficient condition), XOR(exclude both), implies(then), and, or]. As the word said, it shows the quantity of the things(specimens) range. The order of quantifier is quite crucial to meaning of a proposition.

False implies ANYthing is TRUE

Proposition case include ~~prime number, a to the fourth, ~~ conjecture.

Predicate||Satisfiability is a proposition which depends on variable to be true || false

Assertion is kinda a statement that is strongly believed as true
Axiom also is a statemen that is generally accepted to be true, but need not be proven.
It should be Consistent or Complete but cannot be able to both to be a true.
-Eucildean geometry
-Spherical "
-Hyperbolic "

Factoring is the way to break cryptosystem.

//weird Z is a notation for integer.

Validity check is kinda test for verifying the formula of propositions(this shows Predicate logic – http://www.aistudy.co.kr/logic/predicate_logic.htm)

-counter model
1) $\forall x \exists y$: For every x there exists a y (such that...)

2) ∃y∀x: There exists a y (such that) for every x...

Using the marriage example respectively:

1) Everyone is married to someone (ie. For every person there exists a person to whom he/she is married)
2) Someone is married to everyone (ie. There is someone who is married to everyone)