Basic Concepts and Deductive Reasoning: claims, statements, premises, conclusions, arguemnts, theid validity, truth, soundness

Shit name
Argument - a complex claim with some support
Conclusion - claim we want to prove
Premises - the claims, which contains the reasons
Syllogism - deductive argument, which contains exactly 2 premises

Possible states of that shit		Reason of state
Valid	Invalid	Valid if it's impossible to make conclusion false when premises are true and conclusion directly connected with premises
TRUE	FALSE	Logical meaning
Sound	Unsound	Deductively sounds if argument is valid and all premises are true

Analysing the argument
1. Identify the argument (is that an argument at all)
2. Reconstruct (map out the premises and conclusion)
3. Evalueate (determine validity, soundness, etc.)

Linguistic phenomenas, which makes the task harder
Ambiguitiy (неоднозначность)
Vagueness (неопределенность)
Rhetorical questions (риторические вопросы)
Irony (Ирония)
Implicitly relative sentences (неявно связанные предложения)
Quantifiers (кванторы, собирательные слова)

Types of Syllogisms (Deductive Arguments)			
Modus Ponens	**Modus Tollens**	**Disjunctive Syllogisms**	
If P, then Q		P or Q	
P	Not Q	Not P	Not Q
Therefore, Q	Therefore, not P	Therefore, Q	Therefore, P

Types of Fallacies (заблуждения)	
Denying the antecedent	**Affirming the consequent**
If P, then Q	
Not P	Q
Theregore, not Q	Therefore, P

Category Logic - logic of categories/classes

Deals with the logical relationship between categorical propositions (sentence about category)

Basic definitions
Proposition - declarative sentence, assertions about categories, the meaning of sentence (e.g. "Grass if green")
Categorical Proposition - sentence, which explain the relationship between 2 categories **(mandatoraly contains terms "all" or "some")**
Statement - descriptive sentence, linguistic value (e.g. "X = Y", we don't know what is X or Y, what does it means)

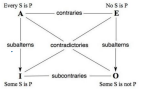
Basic elements of categorical logic		
Subject Term - base category, which relates with predicate		**Copula** (связка) - verbs in general, which connects terms together
Predicate Term - which category subject connects to		**Quantifires** (кванторы) - words such as "all", "none"

Quantity - How much?
Universal Sentence - claim about **every** member of category
Particular Sentence - claim about **some** member of category

Quality - In which way?
Affirmation - claim of **positive** quality
Negation - claim of **negative** quality

Distribution - Are everyone affected?
Is statement affects **every member** of a class (including negation - none of them), it is **distributed**
Otherwise, if statement affects **some part** of a class, it is **not distributed**

Form of Syllogism	Type letter	Quantity	Quality	Distribution of Subject Term	Distribution of Predicate Term
All X are Y	A (lat. **A**ffirmo)	Universal	Affirmative	TRUE	FALSE
None X are Y	E (lat. n**E**go)	Universal	Negative	TRUE	TRUE
Some X are Y	I (lat. affI**I**rmo)	Particular	Affirmative	FALSE	FALSE
Some X are not Y	O (lat. neg**O**)	Particular	Negative	FALSE	TRUE



Existential Import - a property of a proposition, which makes a claim of existance
In other words, if a proposition declares an existance of objects with special property, it is **Existential Import**

Interpretations of Existential Import		
Aristotle		**Boole**
Universal propositions about real existing things have an E.I.		No claim of existance if proposition is universal
Simple criteria: Subject term refers to real things		

Quantity	Has an **E.I.**?	Why?
Particular (I, O)	TRUE	They always asserts, that someting exists (e.g.: "Some people are dear" asserts an existance of people)
Universal (A, E)	DISPUTABLE	Drunk Aristotel and Boole again fighting! Every friday the same shit!

Stoic Logic as Aristotle rivalry (конкурент)		
Stoic Logic		Aristotle Logic
Analysis of propositions (sentences)		Analysys of terms

The Fundamental Logical notion (atomic) for the Stoics is an **Assertible** with such features	
Sound uttered	Lekton, the sayable was conveyed by the language
The actual things to which the sound referred	It possesses a truth value at any point in time
Example of assertible: Is is night	

Connectives, used to expand and enrich the assertible:		
Conditional (if)	Conjunctive (and)	Disjunctive (or)

Modern Proposition Logic

The basic unit of propositional logic is... **PROPOSITION**	
Example: *Prof Farina is a clown and Prof Farina likes little kids*	
Proposition I	*Prof. Farina is a clown*
Proposition II	*Prof. Farina likes little kids*
Connective	*and*

Connectives, used to construct complex proposition		Symbol	Can be in simple statement
Negation	*No, not*	~ (tilde)	TRUE
Conjunction	*And, also*	• (dot)	FALSE
Disjunction	*Or, but*	V (descending wedge)	FALSE
Impication	*If .. then*	⊃ (horeshoe)	FALSE
Equivalence	*If and only if*	≡ (triple bar)	FALSE

Truth functional - a valid argument, which could be false xor true, wilhout an exception
Statement variable - is something like a common algebra variable