

# **Logic and design methodology**

## **second stage**

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# Why logic for many centuries was regarded as an important part of higher education?

- **The logic** is the critical study of reasoning
- It's a subject having both theoretical interest and practical utility.
- It's a knowledge for its own sake for its close relations with philosophical questions.
- A person who can recognize and avoid logical mistakes in reasoning will be able to think more clearly and correctly ... More soundly and surly.

- During the medieval times, **Aristotle's** writing on logic were deeply as the central and most important part of logic.
- Especially by the Arab philosophers **Farabi** and **Avicenna**.
- 18<sup>th</sup> century the German philosophers **Kant** reflected the Aristotelian system on logic was completed since;
- A subject whose essentials were fully understood and in which new principles remained to be discovered.

# What is philosophy?

- The derivation of the word is from the Greek roots:
- **PHILO** means **LOVE OF**.
- **SOPHOS** means **WISDOM**.
- **PHILOSOPHY** means **LOVE OF WISDOM**.

# Main branches of the philosophy

- **1- Metaphysics** (Beyond physics):

Understand the nature of real universe through intellectual problems of great importance to all thinking people: **is the universe basically physical or spiritual?**

- **2- Epistemology (theory of knowledge):**

Investigate the nature and scope of knowledge in different branches.

- **3- Ethics (Moral philosophy):**

Study the actions and attitudes and investigates the notions of good and evil, right and wrong, duty and obligations ... etc.

- **4- Aesthetics:**

Its deals with notion of beauty and other notions related to the value of works of art (harmony, order, pattern ... Etc.)

- **5- logic:**

Its concerned with correct reasoning , by the act of arguments. Argument are important in everyday life.

<b>No.</b>	<b>Main Branch</b>	<b>Concern</b>	<b>Question they address</b>
<b>1</b>	<b>Metaphysics</b>	<b>Study of existence</b>	<b>What out there?</b>
<b>2</b>	<b>Epistemology</b>	<b>Study of knowledge</b>	<b>How can I know about it?</b>
<b>3</b>	<b>Ethics</b>	<b>Study of action</b>	<b>What should I do? What actions are permissible?</b>
<b>4</b>	<b>Aesthetics</b>	<b>Study of art and beauty</b>	<b>How can we appreciate the world around us?</b>
<b>5</b>	<b>Logic</b>	<b>Study of reasoning</b>	<b>How can we understand life and facts around us?</b>



- According to the previous knowledge; The clear definition for the logic could be:

**The study of methods and principles used to distinguish good (correct) reasoning from bad (incorrect) reasoning.**

- So we can conclude that: All reasoning is thinking ... But not all thinking is reasoning.

# Logic in Architecture

- The architecture involved in **practical** and **emotional** needs.
- Its quite distinct from the other arts, which can all be dispended with.
- Any civilization can be understood by its architecture, because of the way buildings show the interest of a society, its organizational skills, affluence or poverty the kind of climate and attitude towards technology and the arts.

- Design in the dictionary means :
- To draw, to form a plan of, to contrive, to intend , a plan or scheme formed in the mind, mental plan.
- Based on the previous definitions; the design could be (conscious mental act).
- Therefore; we should think or analyze all different aspect of the problem related to the design, to be able to come up with satisfactory design.

# The following steps should be taken into consideration:

- 1- **Determining** problems that need to be solve.
- 2- **Analyzing** the problems.
- 3- **deducting** the solution to these problems from our analysis.
- 4- **Forming** a design with an intent to reach a goal that will solve all the problems.

In architecture the main aim of design process is to create a comprehensive solution that an satisfy the human needs.

# Hierarchy of human needs

- The hierarchy from strongest to weakest needs can be listed as:
- **Physiological needs** (hunger, thirst, sleep ...etc)
- **Safety needs** (security and protection from the physical harm)
- **Belonging and love needs** (membership in a group and the receiving of affection)
- **Esteem needs** (the individual to held in high value)
- **Actualization needs** (the desire to fulfill one's capacities)
- **Cognitive and aesthetics needs** (the thirst for knowledge and desire for beauty).

# The real question is:

- **How could architecture fulfill all human needs?**

**THANK YOU FOR YOUR ATTENTION**