**LOGIC: FUNDAMENTALS**

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**INTRODUCTION**: Philosophy, like a big tree, has a lot of divisions, sub-divisions, sub-subdivisions, etc. It is divided into two main branches: Practical Philosophy and Speculative/Theoretical Philosophy. Practical Philosophy is subdivided into Ethics and Logic. Logic is further subdivided into Informal Logic and Formal Logic. Formal Logic is also further subdivided into Logic of Propositions, Methodology, Logic of Terms, Meta Logic, Logic of Class, Logic proper / Mathematical Logic, Logic of Relations, [Philosophical Logic](https://en.wikipedia.org/wiki/Philosophical_logic), [Modal Logic](https://en.wikipedia.org/wiki/Modal_logic), [Computational Logic](https://en.wikipedia.org/wiki/Computational_logic) and [Non-Classical Logics](https://en.wikipedia.org/wiki/Non-classical_logic). Each of these subdivisions are also further divided. Logic belongs to the Practical Philosophy because it is a tool used to direct the reasoning. The scope of logic includes classification of arguments, study of [inference](https://en.wikipedia.org/wiki/Inference), [fallacies](https://en.wikipedia.org/wiki/Fallacies), study of [semantics](https://en.wikipedia.org/wiki/Semantics), and [paradoxes](https://en.wikipedia.org/wiki/Paradox).

**EVOLUTION, DEFINITIONS AND SCOPE OF LOGIC**: Etymologically, *Logic* is derived from *Logike*, *logos,* Greek words meaning *thought*or*reason*. Therefore, logic refers to reasoning. Logic consists of systematic study of rational justification or reasons for arguments. In other words, logic, rather than the study of human mind, is the study of the methods and principles used in making difference between correct and incorrect arguments. Logic teaches us how to think and reason correctly, it enables us to reach true and certain conclusions. Logic is studied in [philosophy](https://en.wikipedia.org/wiki/Philosophy), [mathematics](https://en.wikipedia.org/wiki/Mathematics), [computer science](https://en.wikipedia.org/wiki/Computer_science), [linguistics](https://en.wikipedia.org/wiki/Linguistics), [psychology](https://en.wikipedia.org/wiki/Psychology), and other fields.

Logic is the science of the laws of thought or the science of reasoning.[[2]](#footnote-2) Logic is development of a system of methods and principles used as criteria for evaluating the arguments of others and as guides in constructing arguments of our own[[3]](#footnote-3). Logic is the study of the methods and principles usedin distinguishing good (correct) from bad (incorrect) reasoning. Logic is an attempt to distinguish between correct (valid) and incorrect (invalid) arguments[[4]](#footnote-4). Logic is the art directing the act of reason, through which man may proceed in the act of reason itself in an orderly fashion without error[[5]](#footnote-5). Logic is the science that appraises reasoning as correct or incorrect”[[6]](#footnote-6).

Logicis the systematic study of the classes of [arguments](https://en.wikipedia.org/wiki/Argument). Logic is the science of good or bad reasoning. Using simple words, logic is the study of reasoning and argument. An argument consists of a series of statements (called premises) which are meant to establish a proposition (called conclusion). For example:

*All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrated their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

Logic is a formal science because sound reasoning, which is a feature of logic, is important in all sciences, social sciences and humanities. Logic is concerned with argument, critical thinking, and reasoning. Logic teaches how to reason better. Logic is an important area of Philosophy. Logic is to Philosophy what Mathematics is to the sciences. Logic is also the background of Mathematics. There is no way you can study Philosophy, Mathematics, Sciences, etc without reasoning and constructing arguments correctly. That is why logic is important to all human disciplines and studies. Logic is the queen of all disciplines and no scientist, historian, lawyer, engineer, etc. can afford to present his/her work in a disorderly manner and expect to be taken seriously because to be logical means to be orderly.[[7]](#footnote-7)

**PURPOSE OF STUDYING LOGIC**: Perhaps the most important thing to give to your child to prepare him to confront this world is a firm grasp of logical thinking skills. Without this skill – the ability to reason correctly – his thinking is not firmly anchored, but is “tossed to and fro, and carried about with every wind of doctrine.”[[8]](#footnote-8) A student who can logically understand what he believes will hold fast to the truth and will be able to defend it throughout his life. Logic is necessary to analyze other people’s beliefs. Logical fallacies are everywhere in our society. If a student cannot detect the logical mistakes he hears, then hoe will he discern who is right? Logic is necessary to understand and communicate our own beliefs. The study of logic will give the students life-long skill in proper reasoning. Therefore, the study of logic is considered indispensable to every university student. Logic is concerned with the validity of arguments. Logic is the scientific study of valid argument. Philosophy is all about arguments and reasoning. Logic allows us to test validity rigorously. Logic is used in linguistics, mathematics, computer science etc. Logic helps us make fine-grained conceptual distinctions.

**STRUCTURE OF LOGIC:** This is also referred to as Logical Processes. The structure of logic is to enable you to know how you talk and what you are talking about. The structure of logic has three elements:simple apprehension; judgment; reasoning and argument.Simple apprehension is the act of the mind by which we grasp the essence of a thing. It is the mental image which is created by the mind on the process of conceiving the object. Simple apprehension is attained through the process of abstraction[[9]](#footnote-9). Simple apprehension is the act of perceiving an object intellectually, without affirming or denying anything concerning it, e.g. “*I saw a man”* This is a simple apprehension because I have not deny or affirm or qualify the man. Simple apprehension produces concept or an idea.

Judgment is the act of the mind by which we compare two concepts and declare them to be either in agreement or disagreement with each other. In logic, a judgment may be defined as an act of the mind affirming or denying the agreement of two objective ideas. The mind in judging compares two ides, and consequently the objects represented by those ideas, and affirms or denies that they agree with one another; eg . The man I saw was fat*”* by this sentence then I have made a judgment by affirming the “*fatness*” of the man. A judgment expressed in words is called a Proposition. Thus, judgment produces the proposition, which is a statement expressing the truth. Reasoning and argument it the act of the mind by which we derive new truths from what is previously assumed to be true.

**SOME VOCABULARY RELATED TO LOGIC:** It is helpful to know some important logic’s vocabulary and distinguish between them and related terms and concepts. Some of them are the following:

**1. PROPOSITION OR STATEMENT:** The two terms are used synonymously in logic. The term proposition is a particular kind of sentence, one which affirms or denies a predicate of a subject. In logic, there are differences between a statement and a sentence: a statement is a part of sentence but a sentence is not part of a statement. A sentence is a group of words expressing a statement, a question or a command. A sentence expressing a statement (without being a question or a command) is a sentence. However, every sentence is not a statement. A sentence expressing question or command is not a statement or proposition. A statement / proposition is a sentence can either be denied or asserted, eg

*i. Biola is wise*

*ii. Promise is a debt*

*iii. Their marriage is valid.*

For example, the sentence “*Biola is wise*” can be denied (*No, Biola is not wise*) and it can also be asserted (*Yes, Biola is wise*).

**2. PREMISE:** Premise is a proposition upon which an argument is based or from which a conclusion is drawn. A premise is a proposition, within an argument, which provides support for the conclusion of that argument. A premise is an assumption; this assumption is made for the sake of argument. A premise is a proposition used as evidence in an argument, eg

*i. All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

*ii. A member of any secret cult is disqualified from gubernatorial election – Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

**3. PREMISE-INDICATORS:** They are words and expression that begin or introduce the premises in an argument, eg *in as much as, for, since, as, because, for the reason that* etc A proposition following any of the indicators is a Premise eg

i. *In as much as Biola and Ngozi celebrate their marriage under the Act, their marriage is valid.*

ii. *Since Bobo Mekafo is a member of ‘eiye’ secret cult, he is disqualified from gubernatorial election.*

iii. *Segelu has committed murder because Segelu killed Kris unlawfully.*

**4. CONCLUSION:** Conclusion is a proposition, in an argument, that is deduced or arrived at as a result of the information given by the premise(s). Conclusion is the logical result of the relationship between the premises. Conclusion serves as the thesis of the argument. The conclusion follows from the premises.

*i. All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

*ii. A member of any secret cult is disqualified from gubernatorial election – Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

iv. *In as much as Biola and Ngozi celebrate their marriage under the Act, their marriage is valid.*

ii. *Since Bobo Mekafo is a member of ‘eiye’ secret cult, he is disqualified from gubernatorial election.*

iii. *Segelu has committed murder because Segelu killed Kris unlawfully.*

Notice that conclusion does not necessarily mean the last proposition. The premise in an argument can be the conclusion in another argument.

**5. CONCLUSION-INDICATORS:** They are words or expressions that begin or introduce the conclusion within an argument, eg: *therefore, so*, *thus,* *hence, consequently, we may conclude, we may infer* etc. A proposition that is begun with any of the indicators is a conclusion, eg

i. *Biola and Ngozi celebrate their marriage under the Act, therefore their marriage is valid.*

ii. *Bobo Mekafo is a member of ‘eiye’ secret cult, so he is disqualified from gubernatorial election.*

iii. *We may conclude that* *Segelu has committed murder because he killed Kris unlawfully.*

**6. SUBJECT TERM**: Subject term is related to a Proposition (there is no subject term of an argument or syllogism.). The Subject Term of a Premise is the Subject of the Statement eg

 *i. All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

*ii. A member of any secret cult is disqualified from gubernatorial election – Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

**7. PREDICATE TERM**: Predicate Term is also related with a Proposition. There is no predicate term of an argument or syllogism. Predicate Term is the predicate of a Proposition eg

*i. All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

*ii. A member of any secret cult is disqualified from gubernatorial election – Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

Notice that subject term and predicate term are used in reference to individual propositions - whether a premise or a conclusion.

**8. INFERENCE:** Inference is a process of derivation of the conclusion. Inference is an act of deriving the conclusion of an argument from the premises of that argument eg

*i. All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

In this argument, the Conclusion, *their marriage is valid* is derived from the 1st and 2nd premises of the argument.

*ii. A member of any secret cult is disqualified from gubernatorial election – Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

In this argument, the Conclusion, *Bobo Mekafo is disqualified from gubernatorial election* is derived from the 1st and 2nd premises of the argument.

*iii. A person who kills a human being unlawfully has committed murder – Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

In this argument, the Conclusion, *Segelu has committed murder* is derived from the 1st and 2nd premises of the argument.

**9. ARGUMENT:** An Argument is a group of propositions whose function is to make a claim about something. An argument has premises and conclusion. The conclusion of an argument is inferred from the premises. An argument is always the smallest unit of argumentation consisting of at least two propositions to form an argument. In such a case, only one must be the premise while the other must be the conclusion. For example:

i. *Biola and Ngozi celebrate their marriage under the Act, therefore their marriage is valid.*

ii. *Bobo Mekafo is a member of ‘eiye’ secret cult, so he is disqualified from gubernatorial election.*

iii. *We may conclude that* *Segelu has committed murder because he killed Kris unlawfully.*

**10. DEDUCTIVE ARGUMENT**: Argument are exhaustively of two kinds- deductive and inductive. Deductive Argument is also called Deductive Logic, Symbolic Logic, or Formal Logic. Deduction is a process through which the premises provide conclusive proof for the conclusion. Arguments can be Deductive or Inductive. In Deductive Argument, the conclusion of the minor premise is deduced from the major premise; i.e. a process where one argues from the general to the particular. Deductive argument depends upon the formal or structural relationship between the premises and the conclusion. It goes like this: it starts from a major premise, and brings in a minor premise and from the two premises one makes their logical conclusion.

*i. Biola and Ngozi celebrate their marriage under the Act, therefore their marriage is valid.*

*ii. Bobo Mekafo is a member of ‘eiye’ secret cult, so he is disqualified from gubernatorial election.*

*iii. We may conclude that Segelu has committed murder because he killed Kris unlawfully.*

**11. INDUCTIVE ARGUMENT**: Induction is a process through which the premises provide some basis of probability for the conclusion. Inductive argument is a process whereby we argue from the observed (the experienced, the known) to the unobserved (the inexperienced, the unknown), concluding that some quality found to reside in all observed members of a class must therefore reside in all members of it. It is a process of reasoning from particular situations to a general proposition. Inductive Argument is an argument which is based on the fact that there is at least some likelihood that the conclusion will be true given that the premises are true. In an inductive argument, the premises do not lead to the conclusion with certainty but with probability eg

*i. Kemison always loses her temper, therefore she will get annoyed today.*

Here *always* does not mean all the time, therefore, one cannot conclude with certainty that Kemison will get annoyed today; she may be patient today.

*ii. Prof Future will travel this week because he has been travelling every week*.

Here, it is probably and not certainly that Prof Future will travel this week.

*iii. My pregnant wife will give birth to a baby girl since all her children are girls.*

*iv. In the case of* ***Donoghue v. Stevenson****, a person who injured another man was asked to pay damages to the injured - Premise*

 *A similar position was held by the courts in the cases of* ***Duke v. White & Sons; Scarsbrook v. Mason****, among others. - Premise*

*Therefore, Shola should pay damages to Kunle for causing him injury – Conclusion*

*v. Peter Rufai is a Nigerian and is a good goalkeeper - Premise*

 *Best Ogedegbe is a Nigerian and is a good goalkeeper -Premise*

 *Vincent Enyeama is a Nigerian and is a good goalkeeper -Premise*

 *Therefore, all Nigerians are good goalkeepers -Conclusion*

**12. SYLLOGISM:** Syllogism is more than a preposition. Syllogism is an argument that contains three propositions, two of which the premises and one the conclusion. No matter how many premises are in an argument, it will have only one conclusion. The goal of syllogism is to arrange premises so that only one true conclusion is possible, eg

*i. All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

*ii. A member of any secret cult is disqualified from gubernatorial election – Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

**13. ENTHYMEME:** This is a shortened form of syllogism which omits the first premise allowing the audience to fill it in, eg:

*i. Biola and Ngozi’s marriage is valid because they celebrate their marriage under the Act.*

(Here, the first premise, *All marriages celebrated under the Marriage Act shall be valid*, is omitted)

*ii. Since Bobo Mekafo is a member of ‘eiye’ secret cult, he is disqualified from gubernatorial election.*

*iii. Segun has committed murder for he killed Kris unlawfully.*

**14. MAJOR TERM:** Major, minor and middle terms are all parts of a syllogism or an argument (and not a Proposition). The Predicate Term of the Conclusion is the Major Term of the syllogism/argument eg

*i. All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

*ii. A member of any secret cult is disqualified from gubernatorial election – Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

**15. MINOR TERM:** The Minor Term of an Argument/Syllogism is the Subject Term of the Conclusion eg:

*i. All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

*ii. A member of any secret cult is disqualified from gubernatorial election – Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

**16. MIDDLE TERM:** The Middle Term of an Argument/Syllogism is the term which occurs in both premises but does not occur in Conclusion eg:

*i. All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

*ii. A member of any secret cult is disqualified from gubernatorial election – Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

**17. MAJOR PREMISE**: This is the Premise that contains the Major Term of the Argument/Syllogism eg.

*i. All marriages celebrated under the Marriage Act shall be valid. - Major Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

*ii. A member of any secret cult is disqualified from gubernatorial election – Major Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Major Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

**18. MINOR PREMISE**: The Minor Premise is the premise which contains the Minor Term of the Conclusion.

*i. All marriages celebrated under the Marriage Act shall be valid. - Major Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Minor Premise*

*Therefore, their marriage is valid - Conclusion*

*ii. A member of any secret cult is disqualified from gubernatorial election – Major Premise*

 *Bobo Mekafo is a member of ‘eiye’ secret cult - Minor Premise*

 *Bobo Mekafo is disqualified from gubernatorial election - Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Major Premise*

 *Segelu killed Kris unlawfully - Minor Premise*

 *Segelu has committed murder - Conclusion*

**19. VALID ARGUMENT:** An argument may be valid or invalid. A valid argument is the one where the Conclusion is derived with certainty from the Premises. If the premises are true, then the Conclusion must also be true. However, to make a valid argument, it is not necessary that the Premises and the conclusion are true: what matters is that the Conclusion must be derived from the Premises. An argument can still be valid even when all the premises are false eg:

*i. All Adeleke University students are truthful - Premise*

 *Yemkem is a student of Adeleke University - Premise*

 *Therefore, Yemkem is truthful. - Conclusion*

*ii. Every man is gentle. -Premise*

 *Gbem is a man -Premise*

 *Gbem is gentle. -Conclusion*

*iii. A person who kills a human being unlawfully has committed murder – Premise*

 *Segelu killed Kris unlawfully - Premise*

 *Segelu has committed murder - Conclusion*

For a deductive argument to be valid, the conclusion must be derived with certainty from the premises. Furthermore, validity is not a matter of degree- an argument either has it in full or lacks it altogether. Therefore, one cannot say that one argument is more valid or less valid than another. Validity is not a property of isolated proposition – premise or conclusion – so, one cannot say a proposition is valid or invalid.

**20. INVALID ARGUMENT**: This is the opposite of valid argument. An Invalid Argument is the argument whose Conclusion is not derived from the Premises. All the premises may be true and yet the Argument is invalid. It is not necessary that if the premises are true, then the conclusion must be true, eg:

*i. Kemison always loses her temper, therefore she will get annoyed today.*

*ii. Prof Future will travel this week because he has been travelling every week*.

*iii. My pregnant wife will give birth to a baby girl since all her children are girls.*

The words *“true”* or *“false”* are used to qualify propositions eg true/false proposition; the words, *“valid”* or *“invalid”* are used to qualify arguments eg valid/invalid argument. An inductive argument is one which is neither formally valid nor claimed to have validity as its goal. Instead, it is claimed to be such that there is at least some likelihood that the conclusion will be true, given the premises are true.

**21 & 22. WEAK AND STRONG INDUCTIVE ARGUMENTS:** ‘*Weak’* or *‘strong’* is used to qualify an Inductive Arguments. The words *strong* and *weak* are used to indicate the level, degree and strength of the probability contained in the conclusion eg:

*i. Peter Rufai is a Nigerian and is a good goalkeeper - Premise*

 *Best Ogedegbe is a Nigerian and is a good goalkeeper -Premise*

 *Vincent Enyeama is a Nigerian and is a good goalkeeper -Premise*

 *Therefore, all Nigerians are good goalkeepers -Conclusion*

 (WEAK INVALID ARGUMENT)

ii. *In the case of* ***Donoghue v. Stevenson****, a person who injured another man was asked to pay damages to the injured - Premise*

 *A similar position was held by the courts in the cases of* ***Duke v. White & Sons; Scarsbrook v. Mason****, among others. - Premise*

*Therefore, Shola should pay damages to Kunle for causing him injury – Conclusion*

 (STRONG INVALID ARGUMENT)

 **23 & 24.** **SOUND AND UNSOUND ARGUMENT:** A Sound Argument is the argument having all its premises true. An Unsound Argument is the argument having at least one false premise. All invalid arguments are automatically unsound. Therefore, the words “*sound*” and *“unsound”* only used to qualify a valid deductive argument and the words have nothing to do with an invalid argument. It means that before an argument becomes sound or unsound, it must first be valid eg.

*i. All Adeleke University students are truthful - Premise*

 *Yemkem is a student of Adeleke University - Premise*

 *Therefore, Yemkem is truthful. - Conclusion*

*(UNSOUND VALID ARGUMENT)*

*ii. All marriages celebrated under the Marriage Act shall be valid. - Premise*

*Biola and Ngozi celebrate their marriage under the Act. - Premise*

*Therefore, their marriage is valid - Conclusion*

 (SOUND VALID ARGUMENT)

*iii. Peter Rufai is a Nigerian and is a good goalkeeper - Premise*

 *Best Ogedegbe is a Nigerian and is a good goalkeeper -Premise*

 *Vincent Enyeama is a Nigerian and is a good goalkeeper -Premise*

 *Therefore, all Nigerians are good goalkeepers -Conclusion*

 (INVALID ARGUMENT)

**CONCLUSION**: Given an argument, we want to know if the argument is valid; does the conclusion follow logically from the premises? Is the conclusion a logical consequence of the premises? To provide a clear analysis of the logical concepts of ‘validity’ and ‘logical consequence’, and to provide methods of classifying arguments as valid, invalid, sound, unsound, weak and strong is the central task of logic. The foregoing are the fundamentals of logic.

1. **LECTURER, FACULTY OF LAW, ADELEKE UNIVERSITY, EDE, OSUN STATE** [↑](#footnote-ref-1)
2. Irving Copi 1968. *Introduction to Logic.* London: Macmillan [↑](#footnote-ref-2)
3. Neneye, E. P. 2003. *Introduction to Logic and Philosophy.* Owerri: Prosperity Publishers [↑](#footnote-ref-3)
4. Kahane, H. 1968. *Logic and Philosophy.* California: Wadsworth [↑](#footnote-ref-4)
5. Thomas Aquinas [↑](#footnote-ref-5)
6. Wesley, Salmon. 1984. *Logic.* 3rd edition. Englewood Cliffs, NJ: Prentice-Hall [↑](#footnote-ref-6)
7. Layman, C. S. 2000. *The Power of Logic.* 2nd edition. New York: McGraw Hill [↑](#footnote-ref-7)
8. Harvey Bluedorrn, Why Study Logic? [↑](#footnote-ref-8)
9. Abstraction is the mental process whereby the mind separates the essential features of an object from the non-essential ones [↑](#footnote-ref-9)