Welcome students to  this module.
Let's focus on Deduction and induction.

We shall focus on two types of reasoning in this module,

deductive and inductive.

We'll also focus on salient features of deductive reasoning,

as well as salient features of inductive reasoning.

Towards the end of this module you will be able to identify the two types
of reasoning as well as contrast the two types of reasoning and critically analyze the two types

of reasoning.
What is deductive reasoning?
 Iin this type of reasoning The conclusion is supported by its premises.

Conclusively, that means the conclusion is strictly drawn from the premises and the

premises gave sufficient proof to arrive at the conclusion. The

defining characteristic of deductive reasoning is

certainty. If you look on to inductive reasoning, the

conclusion goes beyond what is contained in the premises, so

the defining characteristic is probability. What I mean here in

inductive reasoning is, there is high chance of the conclusion

going false when any contrary evidence is

provided in the premises.

Now, what are the salient features of deductive reasoning?

In this type of reasoning, if the conclusion is necessary,

that is, if it is forced by the premises, then only the argument

becomes certain. Argument Involves the claim that its

premises provide all the evidence required for the

conclusion. That means that the evidence provided is sufficient.

We don't have to go beyond the available premises. Additional

evidence does not affect the credibility of a valid deductive

conclusion. A deductive system is a closed system of

argumentation. It cannot advance beyond the scope of its

premises. That means it cannot go beyond the premises. It has

to stick only to the premises itself. Now let's take an

example. All human beings are mortal
Socrates is a human being.
Therefore, Socrates is mortal.
This conclusion,Socrates is mortal, is arrived strictly on the basis of the
given two premises.
All humans are mortal. Socrates Is a human being. when all

humans have the quality of being mortal and Socrates is a human,

though, therefore Socrates gets that quality of being mortal.
In this type of reasoning, if all its premises are true, then its
the conclusion must be true. It cannot be false. A conclusion of
a deductive argument is implied by the premises. Deductive
arguments are typically analytic, they're analytic in the sense that they analyze or separate out
something that has already been included in the premises, and then they state
In the conclusion in this form of reasoning, sentences or propositions are often established as self-evident
or what I say given, which means that no proof is necessary and the premises are accepted as obvious
before any reference is made to the facts.
If you look at a valid argument in deductive reasoning or valid

argument is one , in which the premises are true and the

conclusion is also true, and therefore it is called as a

sound argument. And what is an invalid argument in deductive

reasoning? It is possible for the premises to be true and the

conclusion false  and therefore it is invalid, because there

is no logical relation between premises and conclusion. So what

makes the argument invalid?

An invalid is the logical relationship between the

premises and the conclusion.

We move to the next type of reasoning, which is called as

inductive reasoning. Now Inductive reasoning is a type of

reasoning that is dependent entirely on experience. So in

Inductive reasoning is that of learning from experience. That

means you have to experience it,and that experience helps you to

draw the conclusion. The central feature of inductive reasoning is probability. That

means they're highly probable.They are likely to change.

We use inductive reasoning very frequently in everyday life. That the inductive nature of this kind of conclusion draws generally goes unnoticed. That Means we use it so often that we

don't realize that we are using inductive reasoning in our

day-to-day conversations. For example, all the movies produced

in recent years by Jorge Luis has been successful. Therefore,

the latest film produced by Luis will be also successful. So we

have seen so many movies produced by the director have

been superhit, therefore the next film, which is

to be released soon, is also going to be a super hit based on

the previous super hit films.Now this type of reasoning

therefore is called inductive reasoning. The conclusion of

inductive reasoning is never

absolutely certain. The Reasoning proceeds to a

conclusion that is not confined to the scope of premises, but is

somehow additional to or beyond them.
One of the most obvious advantage of inductive reasoning
is that it helps human beings to frame their expectations of the
future on the basis of what they know about the past and the
present. Here we can take an example of even the weather
forecast based on experience. Conclusions about what is most likely to happen in future are
guided by the accumulation of available evidence. It gives the
power to project forward in time and predict what will probably
occur. For instance, the weather forecast predicting the future
rains on the basis of today'sweather is is a clear cut
example of inductive reasoning. Inductive logical procedure is always tightly linked to the
concept of probability. The conclusion is based on the
evidence, but the conclusion is never absolutely certain. The
conclusion is only probable.There is the possibility of discovering new evidence in case of inductive
reasoning. For instance, courtroom drama on television and in the movies
often explains this point. The nature of probability is the
likelihood. That its conclusion is true as long as the premises
are factual. The moment you get another opposite evidence, the
the whole previous established conclusion becomes probable.

Inductive arguments are judged as strong or weak. The greater

the weight of the evidence, the stronger is the argument. Terms

such as valid or invalid cannot be applied to inductive

arguments. The test for measuring the inductive probability is strength of

arguments and with the rules for constructing strong inductive

arguments. That means we cannot say inductive argument is valid

or invalid. We have to say whether they are strong or weak

depending upon the evidence. The greater the evidence, the

stronger is the argument, the less evidence it is, the weaker

the argument becomes. This method of reasoning.

Has been identified with statistics and scientific

activity so all the scientific activities, the

scientific theories, the observations, all these are

the all these except orthese adopt the inductive

mode of reasoning. These are some of my references which

I have used any y'all too can use this for further

reading. Thank you.