

Summary day 5

Morning session:

Today koushik sir started the discussion about the previous class discussion in problem solving and what are all the steps we follow while solving the problem and all. Then made an interaction on propositions.

Proposition logic: proposition logic is a statement that is either true or false.

Mathematical representation: In order to understand the proposition logic we represent it in terms of mathematically by assigning each statement with a variable.

For example: My home is painted in red $\rightarrow p$

My home is in the corner $\rightarrow q$

Variable representation:

1. $P \wedge q$ (logical conjunction/AND)
2. $P \vee q$ (logical disjunction/OR)
3. $\sim p \vee \sim q$ (logical negation/NOT)

Example: $p \wedge q$ (My home is painted in red and my home is in the corner).

$P \vee q$ (My home is painted red or my home is in the corner).

$\sim p \vee \sim q$ (My home is not painted in red or my home is in the corner).

Logical disjunction (OR): In this case either one statement is true then the final output will be true.

Example:

P: My home is painted in red.

Q: My home is in the corner.

P	Q	$P \vee Q$
T	T	T
T	F	T
F	T	T
F	F	F

Logical conjunction (AND): In this case if both the statement is either true then

the output will be true. If one fails then the condition is fail.

Example:

P	Q	$P \wedge Q$
T	T	T
T	F	F
F	T	F
F	F	F

Implication (IF): In this condition if p is true then q.

Example:

P:you get A in maths.

Q:I will get you an iphone.

In the above statement we can make it into implication as follows,

$P \rightarrow Q$

If you get A in maths ,I will get you an iphone.

p	q	$p \rightarrow q$
T	T	T
T	F	F
F	T	T
F	F	T

Biconditional logic(IF AND ONLY IF):

If and only if you get A in maths,I will buy iphone.

In the above statement we can make it into biconditional as follows,

$P \leftrightarrow q$

p	q	$P \leftrightarrow q$
T	T	T
T	F	F
F	T	F
F	F	T

There is a difference from the implication and biconditional logic is that if p statement is false and q

statement is true the output is true in implication logic because the statement is itself false.similarly the output will be false in biconditional logic because if only get A in maths then only I will buy iphone.

Another example for biconditional and implications is as follows:

1.if you get 80%,I will move you to the next class(implication)

2.if and only you get 80%,I will move you to the next class(biconditional).

Finally koushik sir gave us the set of statements and told us to write it using variable representation.

A:There is a t-rex outside my apartment.

B:T-rex knows how to open the windows of my apartment.

C:I am in my apartment right now.

D:My apartment has windows.

E:I am going to be eaten by a t-rex.

Statement 1:I wont eaten by t-rex IF there is'nt a t-rex outside the apartment.

$\sim e \rightarrow \sim a$

Statement 2: If there is t-rex outside my apartment, but it can't open windows. I am not going to be eaten by the t-rex.

$a \vee \sim b \vee \sim e$

statement 3: I am only in my apartment when there are no t-rex.

$c \rightarrow \sim a$

In this session I got to know about proposition logic and how it is represented using Boolean table.

Afternoon session:

In the afternoon session each one is assigned a mentor. My mentor is Richie who is working in a data analysis team.

So we made a basic interaction and he started explaining about data analysis like how the data is collected and what are the tools they are using and all. For programming they are using Python, for visualization we can use Tableau, Power BI, IntelliJ, for database we can use SQL.

Then he explained about surfboard dashboard like what are all the products they are working for and how each team like frontend, backend team are working.

For example, take a product like chocolate milkshake. To write a product description we take five to ten minutes to research and then we code it. But using AI integration tools we can quickly create a product description in a fraction of seconds.

Then he gave a task to create a webpage which contains a title named with a supermarket name and to add a textbox which contains customer ID and logos and to add background colour of the webpage using any languages like HTML, CSS, Java and all.

I created a webpage using HTML with the requirements he told to include in that webpage. And then I run it in the IntelliJ tool. Then I displayed the webpage.

In this session practically I gained knowledge about simple webpage creation using IntelliJ tool.