**REVISION OF SOME TERMS**

**What is a problem** > Problem is a statement which we have to resolve. We need to get solution to that problem

We need to do something to get something

How do you solve a problem

We need to find a solution (Logic / Algo) > Steps that we need to follow to get solution

Me 1Gb Friend 1Gb

256 KB 10 GB

Solution1 : I can download (Algo 1)

Solution 2 : I can physically go there to get that game in some device (Algo 2)

Algorithm > Steps that we need to follow

When we want to represent our Algo, we have 2 options

1. Pseudocode
2. Flowcharts

Program > Set of some statements

Different terms that we use in any program

Variable > When you want to store any value, we need some location in memory

Data Types > It is the type of the value that is being stored in the variable (int char float)

Statements > group of some variables & expressions print hello , A statement is an instruction that the language can execute

Expression > An expression is a combination of values, variables, and operators. A+ b , 2+r

Syntax > Every language will have its own syntax

Hindi Eng German

Every lang will have its own character set

Eng > A-Z

Grammer/Syntax> Noun pronoun verb

Expressions > which are evaluated a + b

Operators > which work on operands

Depending on no. of operands, operators are of

1. Unary operators , ++ --
2. Binary operators, a + b , here a and b are operands , + - \* / \*
3. Ternary operators , which need 3 operands > ?: is replacement of if else

Depending on what function they perform operators are

1. Arithmetical + - \* / \*
2. Relational / Comparision/ Conditional: > < >= <= !=
3. Logical > AND OR NOT
4. Assignment Operators > = += -= \*= /=
5. Bitwise Operators & | ~

Different type of statements that we use in a program

1. Sequential Statements , statements which executes in a sequence
2. Conditional Statements , statements which executes depending upon some condition

By using if, if else switch

1. Repetitive Statements > Statements which are repeated , By using loops , for do – while while

Condition

Loops

Function > Block of some statements, A function should perform 1, specific task

Advantages of writing function

For modularity > Break a Big program into smaller functions

Easier to understand

Easier to debug

Easier to test

Easy to maintain

Flexible

**REUSABILITY**

It will save your efforts time cost

Functions are optimized, that they consume less memory, less resources

Data structure

Array

Collection

Trees

Graphs

Map

Linked List

Linear Structure

Non Linear structure