

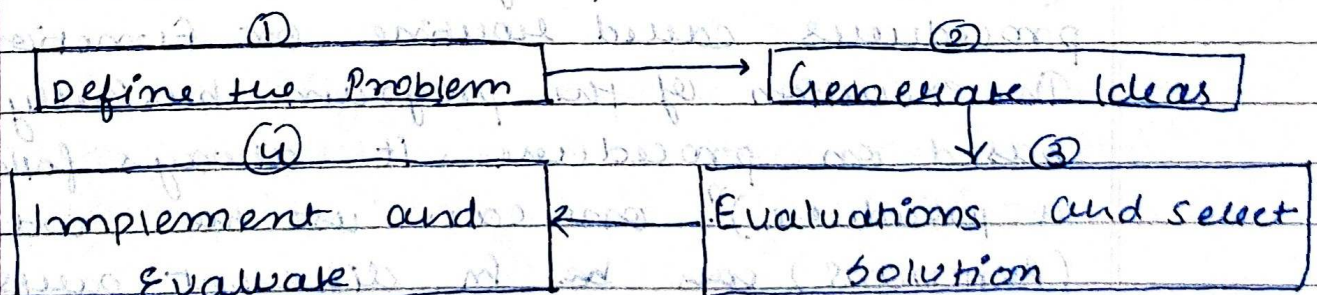
\* PIC stands for Programming in C language.

"C is considered as a middle level language because it supports the features of both low and high level languages. It is basically used to develop softwares like operating systems, database etc.

\* Machine language:- It is basically a language that in which instructions are written in form of binary codes so that the computer can understand and act on it. It is a Machine friendly language.

\* ASCII → American Standard code of Information Interchange. It is a character coding language for electronic communication. ASCII have 128 specific characters into seven bit integers.

\* Problem Solving:- It is the act of defining a problem, Act and determining the cause of the problem, identifying, prioritize and selective alternative for a solution and then implement the solution.





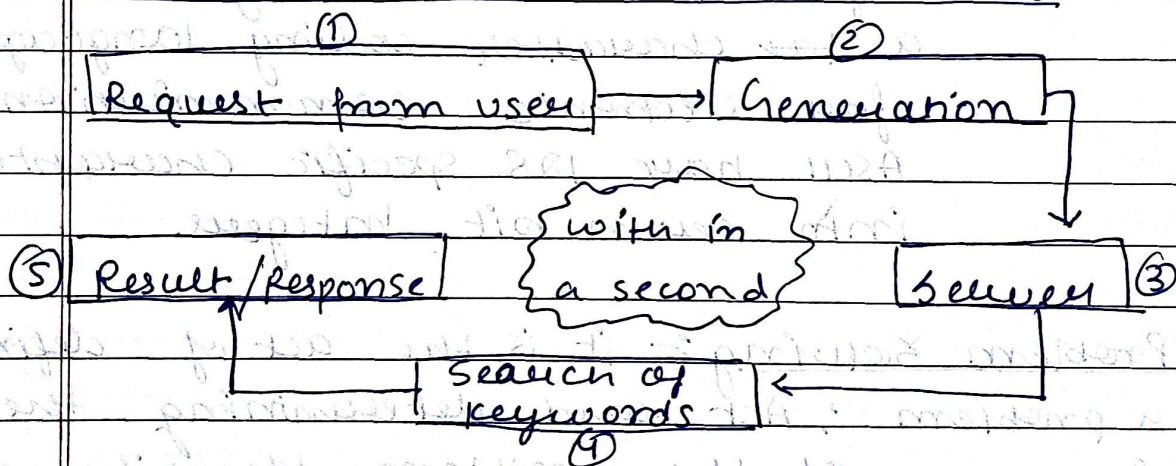
\* Syntax is the example or we can say a protocol or Blueprint that tells the user that how to and where to write (A Pattern).

\* Website → used on world wide web. and Internet required.

\* Desktop App → That plays a specific task that are operated by the computer itself like Recycle Bin.

\* Mobile App → Built for a specific platform.

\* How Search on Internet works:-



\* Procedure Oriented programming language:-

"(It Divides a program into small procedures called routine or functions. The execution of the program basically based on procedure. It always follows a procedure)". one can use the code (functions) can be in different parts.



## \* Object Oriented Programming Language:-

"It is basically based on the objects. In this programming language, programs are divided into small parts called "objects".

Abstraction → only requires data is visible and rest is stored or we can say hidden.

## \* Natural language:-

"It's a part of human language like Hindi, English, Spanish etc".

## \* Middle level language:-

"A language that is user friendly as well as Machine friendly" (example → C, C++, etc).

\* Computer IQ is zero because it is on receiving mode and it follows user's instructions.

## \* Scheduling

↳ Round Robin

↳ FCFS

↳ Shortest Job Next.

\* Maintainability is a repair action. Basically it is to measure and restore anything after the occurrence of failure.



\* Efficient :- A program should be Time saving and memory saving.

\* Reliable :- Trust worthy.

\* Machine Independent :- A program written on one machine can work or execute on any other device.

\* Flexible :- A program should be able to change easily. Like the programmer can make changes in the program as per the requirements.

\* Programming Paradigms :- Procedure or Pattern.

# Programming errors in 'C' :-

"Errors are problems or faults that arise in a program. programming errors are called bugs or faults, removing these bugs and faults is called "debugging".

# Syntax error :- A error that arises because of wrong syntax or mistype. like is a programmer enter Main() instead of main().

# Run time error :- sometimes errors occur even after successful compilation of program.



# Linker errors:- errors that arrives because of any file that is not created but mentioned in the code.

# Logical errors:- errors that arrives because of wrong logic.

# Semantic errors:- when the statements are not understandable by the machine.

### PIC (LAB) :- ALGORITHMS :-

\* Algorithm for creating a addition program.

→ Step 1:- Start.

Step 2:- Declare num1 and num2.

Step 3:- Read num1 and num2.

Step 4:- Add num1 and num2. and store the value in Result.

Step

Result = num1 + num2 \*

Step 5:- Display Result.

Step 6:- Stop.

Note:- Algorithms must be short, easy to understand and clear. so that the programmer can understand it.



## \* Difference between :-

### Good Program

- ① short and simple and understandable
- ② it should be accurate and reliable.

### Good programming

- ① The process of creating a simple and understandable program in time efficient manner.
- ② a good program eliminates error by handling exceptions for accurate and reliable results.

[C, C++, Java]  
(2mk) . Net.

## \* constructors:-

## \* destructors:-

\* abstraction:- only required data is visible and unnecessary data is hidden. or we can say ~~hidden~~ stored.

\* polymorphism:- The ability of an object to take many forms (it allows us to do same task in many different ways)

\* encapsulation:- it refers to the bundling of data with the methods that operate on that data.

# Pseudocode:- it is an artificial and informal language that helps programmer to develop program. Pseudocode is text-based detailed design tool.

Pseudocode is an intermediary between an algorithm and implemented program.

\* For loop is used to repeat.

$i++$  = Post increment

$++i$  = Pre increment

$i--$  = Post decrement

$--i$  = Pre decrement

\* Flow of control is basically the flow of events or steps of a flow chart from top to bottom. Either it is direct like top to bottom or it includes branches (for yes or no).

1. Sequence flow of control
2. Selection flow of control
3. Looping (iteration).



- Looping is a way to repeat commands and control how many times it has to be repeat.

%Lf = for double float.

### Algorithms.

Step 1:- Start

Step 2:- Declare variable num1.

Step 3:- Read num1.

Step 4:- if  $\text{num1} > 0$  is true then print "number is positive" else print "number is negative"

Step 5:- Stop.

A variable is nothing but a storage area of that a program can manipulate.