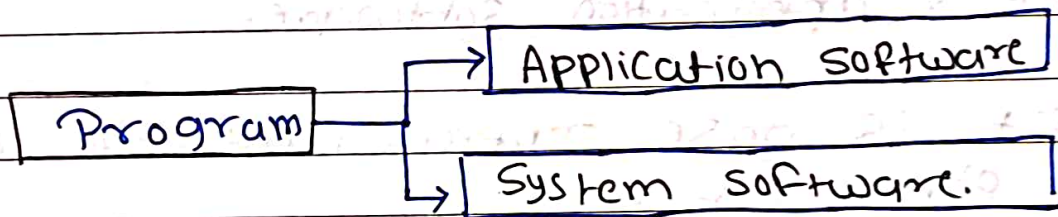# System Software & It's importance •

Q=1- What is system software ? Explain any 4 System software in brief. — ⑤

→ Command is a order given by user to computer as to execute any specific task

Want to execute Ten tasks for user.

way 1:- Send task one by one
(lot of time waste)

way 2:- send all at time

↑ For this purpose we have to make group of commands known as Program

① Appln software mainly devloped for the end user to perform specific tasks
Example : Phone pay, Whatsapp

② System software
: also known as Program

"It is the computer software designed to provide platform to other softwares."

Set of Programs which are develope to opearate, control and extend processi Capabilities of computer itself:
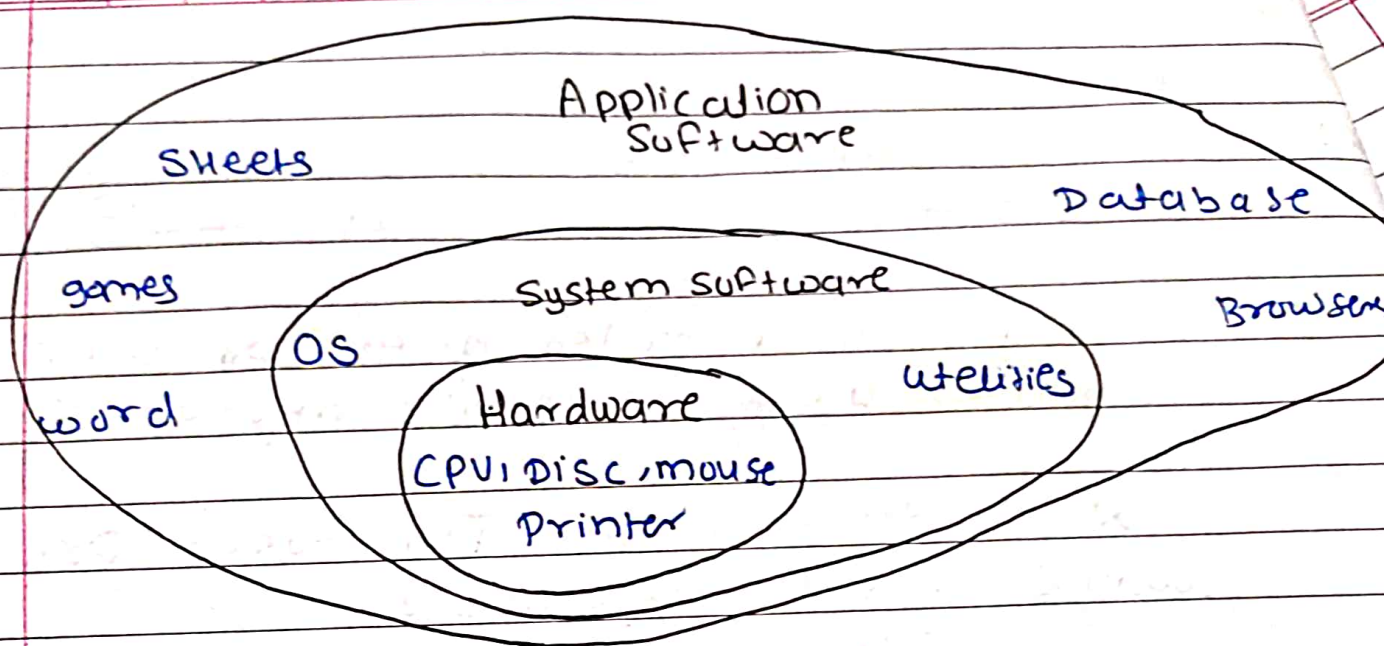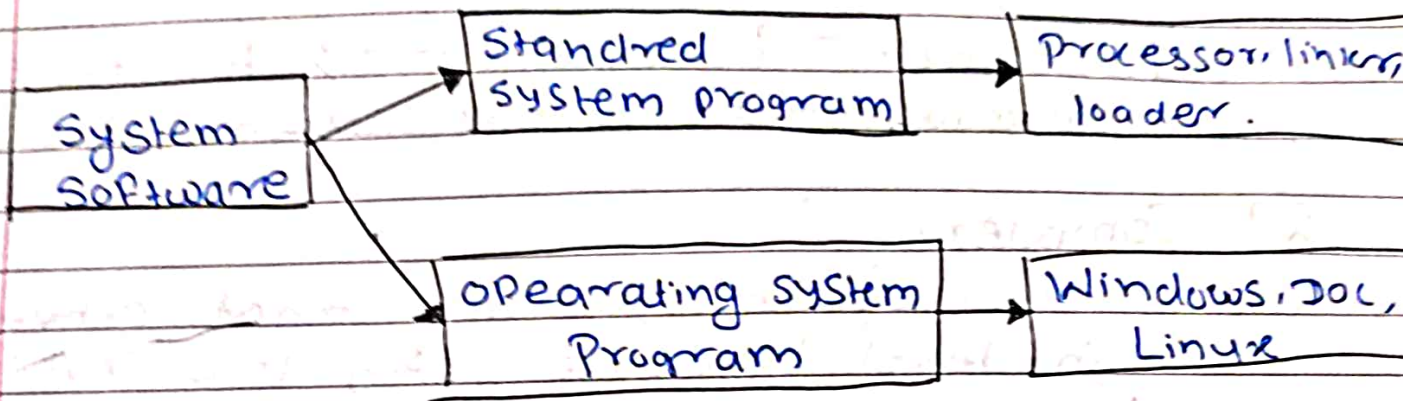
Fig: System Software.

- System Software / System programing runs the hardware parts of computer & other application software.

- It is base Infrastructure for run other Software

- Handels — Hardware, Software & Network togather.

- Interface between Hardware & user application software

- Converts all Human insdutions (commands) into machine reachble format

- System software work
  : Scheduling task
  : Stonding data in memory
  : Process allocation

Example: Opearating System
Interpiter, compiler, Assembler.

System Software	→ Standred System program → Processor, linker, loader.
	→ Opearating System Program → Windows, DOC, Linux

• Components of System Software.

1. Assembler
2. Compiler
3. Interpreter
4. Editor
5. Loader
6. Linker

7. Debygger
8. Macro
9. Device driver
10. Opearating System

"MODI AC DELL"   ← Rembeme this shortcut.

Ⓐ Assembler:

Programs written in machine language are comples to understand & develop. To make these program understandable and easy.

The languge replaced by mnemonic code & symbolic opearand
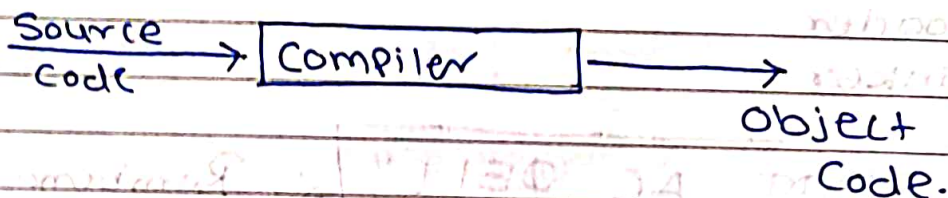
Such languages are known as assembly language.

Assembler ⟶ Convers ⟶ Assembly language ⟶ machine langua

B <u>Compiler:</u>

· is system program that convents high level language into low level languge.

· Takes whole source code at a time and cheacks for error. IF source code is error free. then compiler direltly translate into object code.
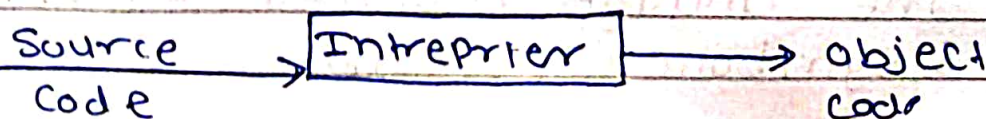
<u>Exe</u> : compilation of gcc code.

Source Code ⟶ | Compiler | ⟶ object Code.

C <u>Interpreter:</u>

is also a translater like compiler. but interpreter takes one line at a time and translate it into object code, then go for the next line and interprets

Ex· Interpetation of Java byte code.

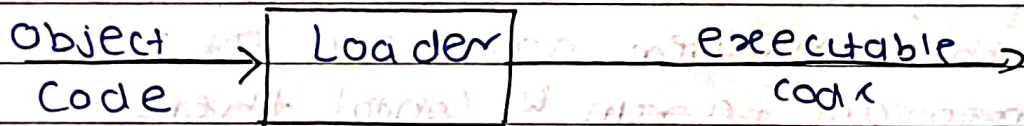Source Code ⟶ | Intreprier | ⟶ object code

① Editor is a system software. That edit the text in text file. The main task to editor to edit text file, travesing through the @ text, viewing & displaying the text.

Example: Notepad ++, Vs code, Vim, MS-DOC.

Types :- Line editor
Screen editor
Stream editer
word Processor
Shuture editor.

E Loader :-

Performs the function of Placing objet code in main memory for execcution Purpose

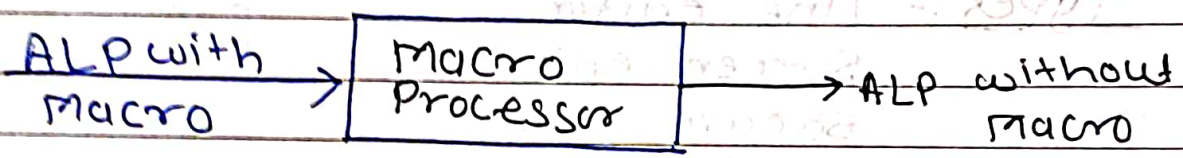Object Code → | Loader | → executable code

F Linker

G Debugger is a System Software used to find out the errors from the code also known as bug

- Most debugger runs Step by step.

H Macro is a group of instructions it is replaced by when it is called by macro processor.

ALP with Macro → | Macro Processor | → ALP without macro

- Macro is used for faster execution and it also provide the code reusability feature.
- OS contain group go macro definitions.

I Opearating System is defined as system program that enables users to Communicate with Computer hardware. It help other program to run & control them

- Types of OS
  → Single user OS
  → multitasking OS
  → Multi processor OS
  → Distributed OS
  → Network OS.

7. Device Driver is a system program used to control number of device which are attached to computer.

- A Simple Assembly Language.

Statement
Support by ⟶
Assembly
language

1. Imperative
2. Declaration
3. Assember

1. Imperative Statement
  - This specifies an action to be taken when execution of assembled program is takes place.
  - Each statement is translated into machine code the assembler
  eg. SUB A,B ⟶ A-B

2. Declarrative statement
    Use for memory reservation for variable

  DS: Declare Storage
  DC: Declare Constant
  eg:
          A DS 1 ⟶ 1 word mem for A
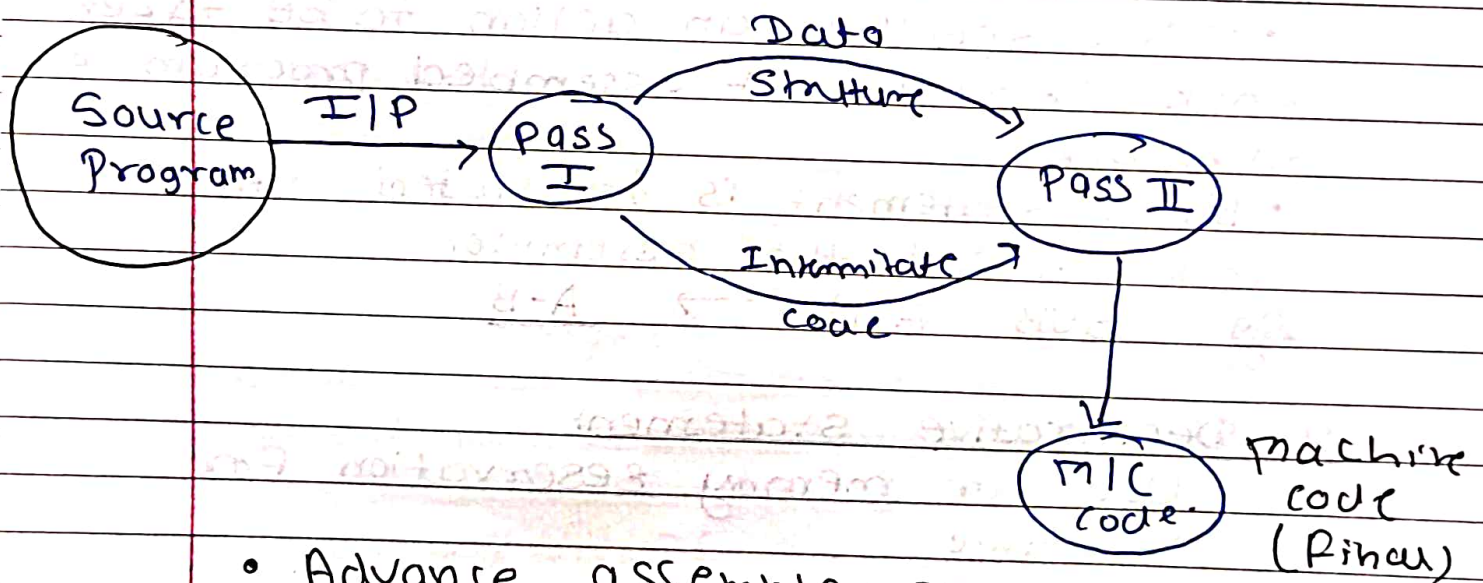   A DC '5' ⟶ '5' is stored in DC

        Default DS ⟶ 1 word

3. Assembler Directives

Instruct the assembler to perform certain action During execution

eg:-
    Start < constant>
        &
    END

• Advance Assembler Directives

• Design of 2 Pass Assembler.

• Advance assembler Directive.