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LAB Assignment 3

SSC

Aim

- Design suitable data structure and implement pass 1 of two pass macroprocessor.

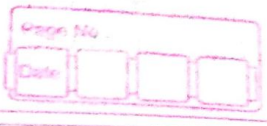
Objective

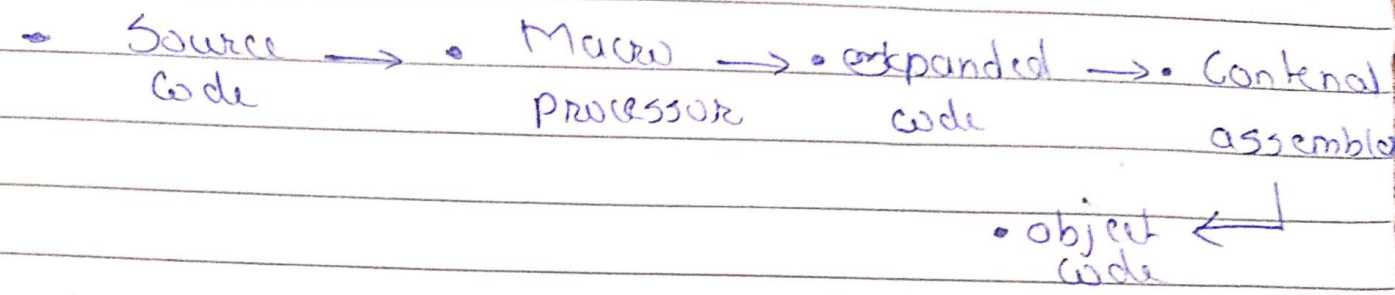
- Design suitable data structure. Import should correct of one macro definition and one macro call and few assembly language instructions.

Theory

(1) What is macroprocessor ?

→ A macroprocessor is a program that copies a stream of text from one place to another making a systematic set of replacements as it does so. They are often embedded in other programes such as assemblers and compilers. Sometimes they are standalone program that can be used to process any kind of text.





(2) Data structure needed for 2 pass macro processor are :-

(i) MNT [Macro Name Table]

— Macro Name Table (MNT) is used to store names of defined macro. Created by Pass I and used by Pass 2.

(ii) MDT (Macro Defination Table)

— Macro Defination Table is used to store body and macro defination. Created by Pass I. Every line of macro defination expert macro is line of macro defination expet macro is stored in MDT as Macro is not used to expand macro. MDT has 80 laykes per entry macro. MDT has 80 laykes per entry

iii. MDTC (MDT Counter) :

- MDTC (MDT Counter) is used to indicate next available entry in MDT, this variable stores the last count from MDT table.

iv. MNTC (MNT Counter)

- MNTC (MNT Counter) is used to store the number of macro defined in the program.

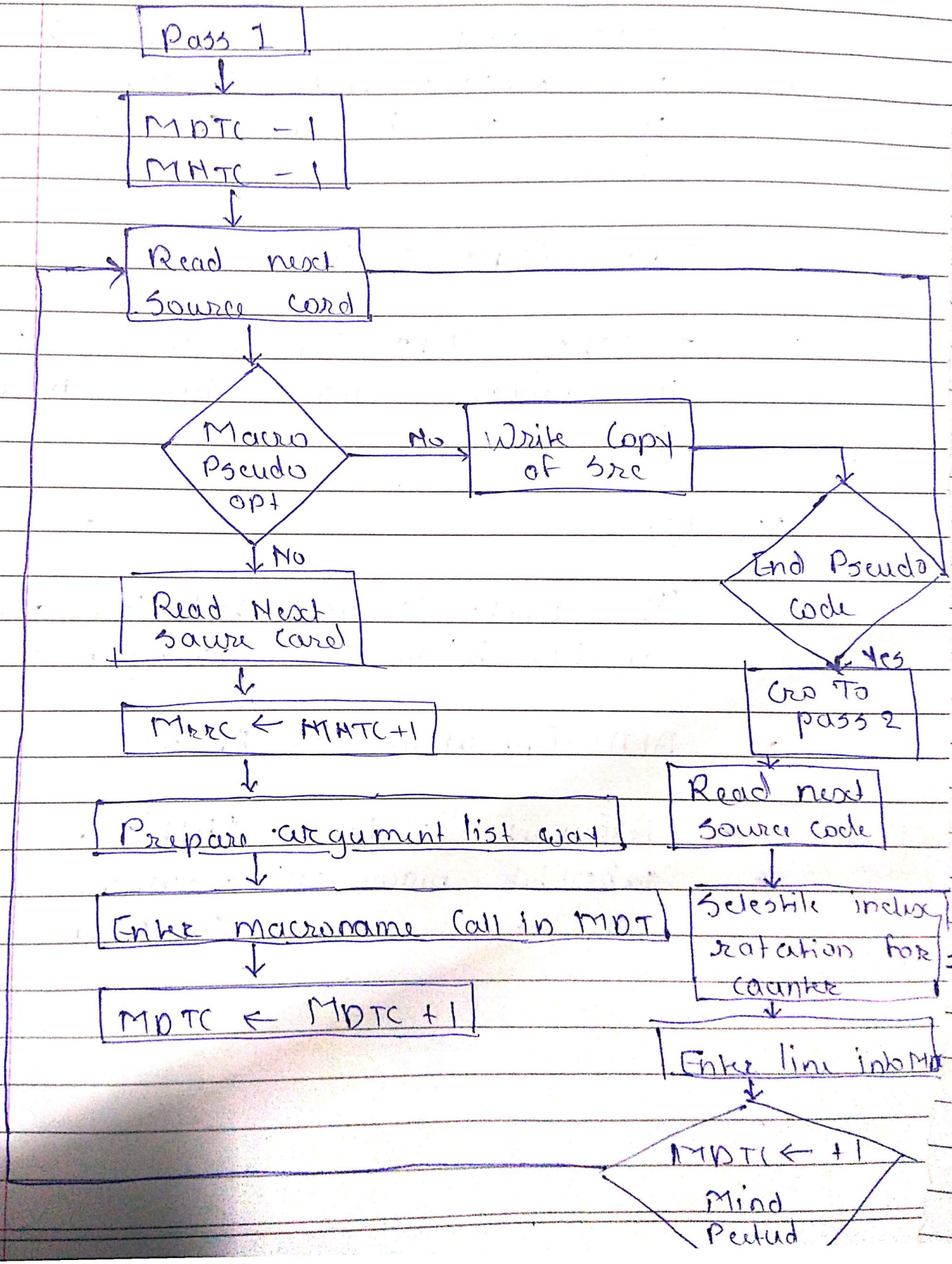
v. MDTP.

This Pointer is used to indicate not line of text to be used during macro expansio

vi ALA (Argument list Array)

- Argument list Array (ALA) is used to substitute macro call argument for the index marks in the stored macro definati

③ Flowchart of Pass 1



Input

Assembly language Program

Output

1. Programs without macro definition (Pass 1)
2. MDT
3. MNT
4. ALA

Platform

Linux (JAVA)

Conclusion

Thus studied the function of Pass 1 in Macro processor.