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31124
TE 01
L1

Assignment 04

Title: Pass 2 of two pass macro processor

Problem statement: Write a java program for pass 2 of two pass macro processor The o/p of assignment (MNT, MDT and IR) should be input for this assignment.

Objective:

1. Understand internals of language translators
2. Under the os internals and functionality with implementation point of view.

Outcomes:

student will be able to:

1. Expand macro calls.
2. link actual parameters to formal ones.
3. Demonstrate use of various Data struct.

Requirements:

OS: Windows 10 64 bit
IDE: Eclipse
programming language: Java

Teacher's Signature

B1104

Theory:

Macro processer allows us to use short hand codes and use them in code (modular programming) It replaces all macro calls with their definations replacing formal parameters.

Tasks done by macro processor:

1. Recognize macro definations
2. Save macros and recognize calls.
3. Expand macro calls.

Task of pass II of two pass macroprocessor:

1. Recognize macro calls.
2. Replace macro defination inplace of macro call.
3. Replace formal parameters with actual parameters.

steps/algorithm:

1. - scan through intermediate code
2. recognize macro calls.
3. expand the macro call using MNT and MDT
4. replace formal parameters with actual parameters.

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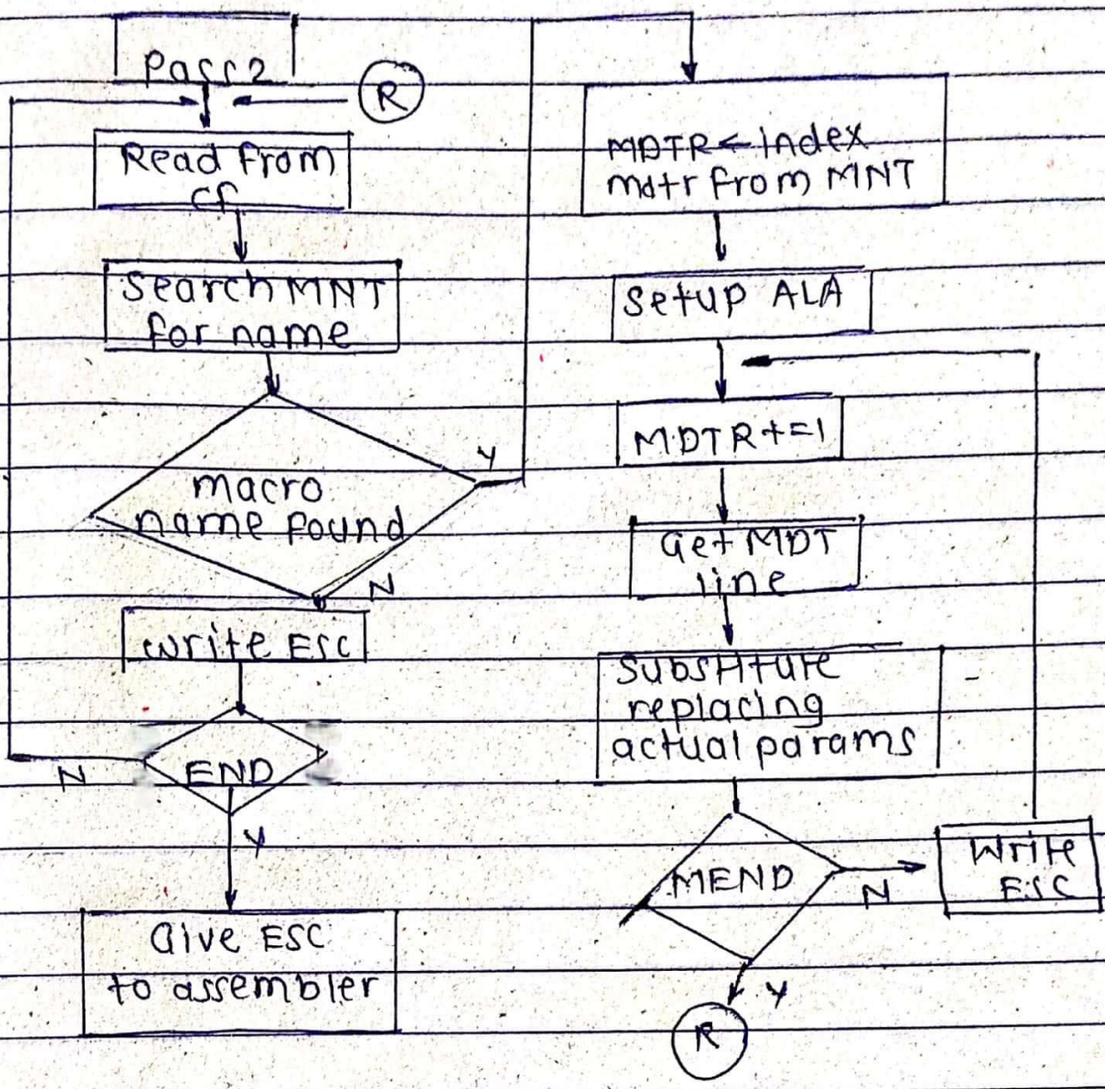
Diagram:



pass II of two pass macro processor.

Conclusion: Pass II of a two pass macro assemb processor was implemented successfully using output (MNT, MDT...) from assignment 3.

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intermediate.txt

```
START   100
M1  10, 20, &B=CREG
M2  100, 200, &V=AREG, &U=BREG
END
```

kpdt.txt kpdt.txt

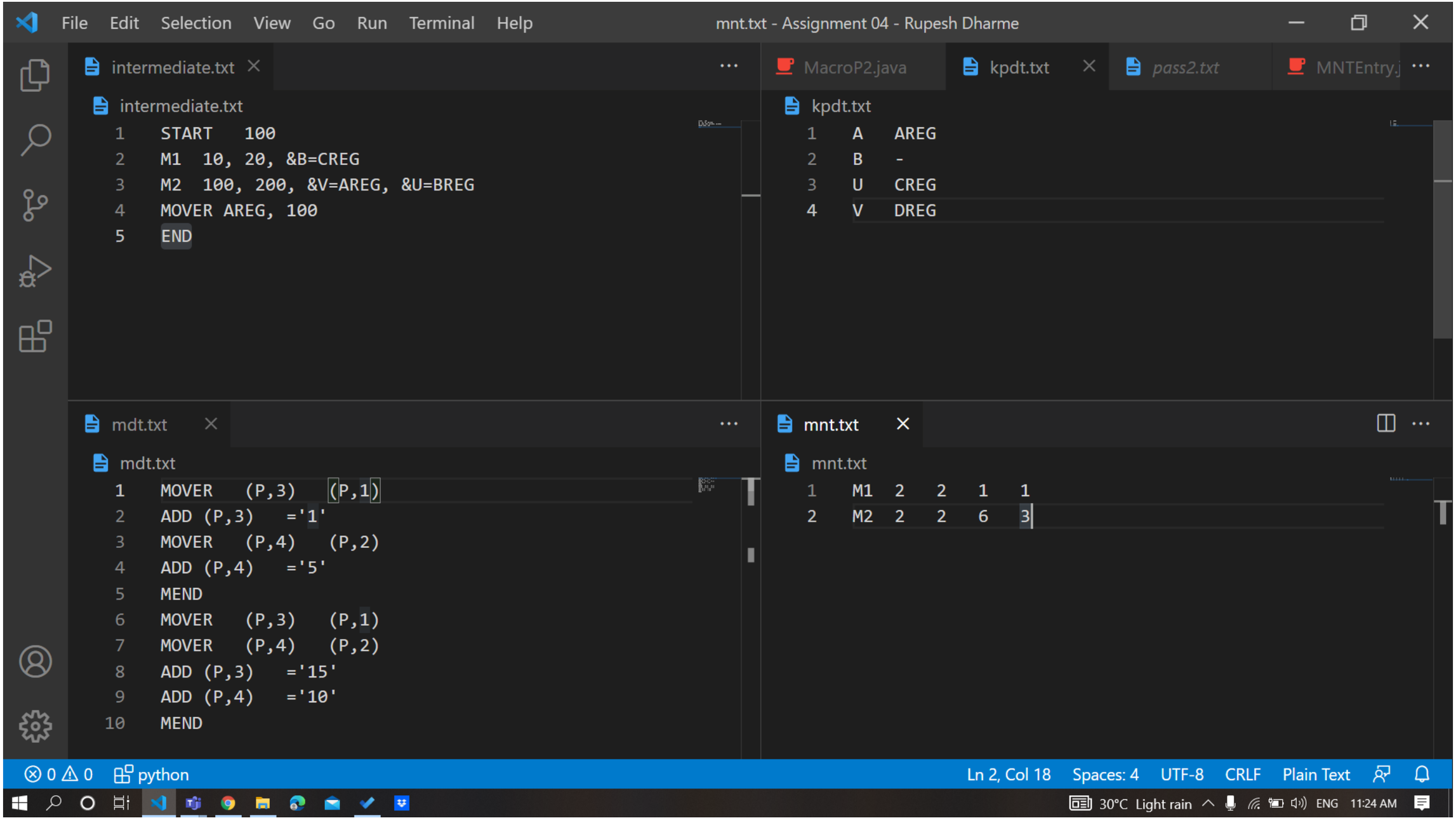
```
A   AREG
B   -
U   CREG
V   DREG
```

mdt.txt

```
MOVER   (P,3)   (P,1)
ADD (P,3)   ='1'
MOVER   (P,4)   (P,2)
ADD (P,4)   ='5'
MEND
MOVER   (P,3)   (P,1)
MOVER   (P,4)   (P,2)
ADD (P,3)   ='15'
ADD (P,4)   ='10'
MEND
```

mnt.txt

```
M1  2   2   1   1
M2  2   2   6   3
```


File Edit Selection View Go Run Terminal Help
mnt.txt - Assignment 04 - Rupesh Dharme
intermediate.txt
intermediate.txt
1 START 100
2 M1 10, 20, &B=CREG
3 M2 100, 200, &V=AREG, &U=BREG
4 MOVER AREG, 100
5 END
MacroP2.java
kpdt.txt
pass2.txt
MNTEntry.j
kpdt.txt
1 A AREG
2 B -
3 U CREG
4 V DREG
mdt.txt
mdt.txt
1 MOVER (P,3) (P,1)
2 ADD (P,3) ='1'
3 MOVER (P,4) (P,2)
4 ADD (P,4) ='5'
5 MEND
6 MOVER (P,3) (P,1)
7 MOVER (P,4) (P,2)
8 ADD (P,3) ='15'
9 ADD (P,4) ='10'
10 MEND
mnt.txt
mnt.txt
1 M1 2 2 1 1
2 M2 2 2 6 3
0 0 python
Ln 2, Col 18 Spaces: 4 UTF-8 CRLF Plain Text
30°C Light rain ENG 11:24 AM