

## Program and Output

### Program :

```
""""
MACRO
INCR
mover areg one
mover breg two
add areg breg
MEND
MACRO
DNL
mover creg one
mover dreg two
div creg dreg
MEND
MACRO
INCR1
mover areg one
mover breg two
mult areg breg
MEND
START 200
MOVER AREG FIRST
ADD AREG SECOND
MOVEM AREG RESULT
INCR
PRINT RESULT
RESULT DS 1
FIRST DC 5
INCR1
SECOND DC 7
INCR
DNL
END
""""
```

```
fp = open('program3.txt', 'r')
program = fp.read().split('\n')
```

```
print('\nGiven Assembly Code\n')
for line in program:
    print(line)
```

```
fp.close()
fp = open('program3.txt', 'r')
program = fp.read().split('MEND\n')
fp.close()
```

```
mnt = []
mdt = {}
```

```
for line in program:
    line.strip()
    a = line.split('\n')
    if a[0] == 'MACRO':
        #print ('Macro name is - ', a[1])
        mnt.append(a[1])
        #print('Macro Instructions are - ', a[2:])
        mdt[a[1]] = a[2:len(a)-1]
    else:
        prog = a
```

```
print('\nContent of MNT\n-')
for each_mn in mnt:
    print(each_mn)
```

```
print('\nContent of MDT-\n')
for k, v in mdt.items():
    for command in v:
        print(command)
```

```
print('\nAfter Macro Expansion\n')
```

```
for line in prog:
    identify_mc = line.split()
    for word in identify_mc:
        if word in mnt:
            value = mdt[word]
            for i in value:
```

```
        print(i)
    else:
        print(word, ", end = ")
```

## OUTPUT :

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.556]
(c) Microsoft Corporation. All rights reserved.

C:\Users\sanke\OneDrive\Desktop\All Stuffs\8. SEM 6\2. SPCC (Oral)\Term Work\Practical 2 - Two Pass Macro Processor>python TwoPassMacroProcessor.py

Given Assembly Code

MACRO
INCR
mover areg one
mover breg two
add areg breg
MEND
MACRO
DNL
mover creg one
mover dreg two
div creg dreg
MEND
MACRO
INCR1
mover areg one
mover breg two
mult areg breg
MEND
START 200
MOVER AREG FIRST
ADD AREG SECOND
MOVEM AREG RESULT
INCR
PRINT RESULT
RESULT DS 1
FIRST DC 5
INCR1
SECOND DC 7
INCR
DNL
END
```

```
C:\Windows\System32\cmd.exe

Content of MNT
-
INCR
DNL
INCR1

Content of MDT-
mover areg one
mover breg two
add areg breg
mover creg one
mover dreg two
div creg dreg
mover areg one
mover breg two
mult areg breg

After Macro Expansion

START 200 MOVER AREG FIRST ADD AREG SECOND MOVEM AREG RESULT mover areg one
mover breg two
add areg breg
PRINT RESULT RESULT DS 1 FIRST DC 5 mover areg one
mover breg two
mult areg breg
SECOND DC 7 mover areg one
mover breg two
add areg breg
mover creg one
mover dreg two
div creg dreg
END
C:\Users\sanke\OneDrive\Desktop\All Stuffs\8. SEM 6\2. SPCC (Oral)\Term Work\Practical 2 - Two Pass Macro Processor>
```