LPCC Assignment 1-A

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**Aim:** Generate Symbol table, Literal table, Pool table & Intermediate code of a two-pass Assembler for the given source code.

1-a: Generate symbol table from given assembly code

**Objective:**

1. To generate symbol table

2. To understand the working of two-pass Assembler

**Theory:**

Symbol Table :

* It is a data-structure maintained throughout all the phases of a compiler
* All the identifier's names along with their types are stored here
* The symbol table makes it easier for the compiler to quickly search the identifier record and retrieve it
* The symbol table is also used for scope management.

**Program:**

**1A.py** :

import pandas as pd

tfile = open('Task.txt','r')

symbol = dict()

LocCount = 0

for line in tfile:

line.strip()

words = line.split()

if line.startswith('START'):

LocCount = int(words[-1])

continue

if len(words)>3 :

symbol[str(words[0])] = LocCount

if 'DC' in line:

symbol[str(words[0])] = LocCount

if 'DS' in line:

symbol[str(words[0])] = LocCount

LocCount += int(words[-1])

continue

if 'EQU' in line:

if words[0] not in symbol.keys():

symbol[str(words[0])] = symbol[str(words[-1])]

LocCount += 1

symbol\_table = pd.DataFrame(list(symbol.items()),columns=['Symbol','Address'])

print(symbol\_table)

**Input File :**

**Task.txt :**

START 200

MOVER AREG =7

MOVER BREG X

L1 MOVER BREG =1

LTORG

NEXT ADD AREG =2

X DS 1

END

**Output:**

