



MIPS ASSEMBLER

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Code

```
; test.asm  
ldc 0  
ldc -5  
ldc +5  
jal label  
label:  
label: ; duplicate label definition  
br nonesuch ; no such label  
ldc var1 ; forward ref  
var1: ldc 25; a variable
```

Analysis(Pass 1)

; test.asm ----> comment(entire line)

ldc var1 ; forward ref

ldc 0

ldc -5

ldc +5

jal label//error as jal is not a valid
mnemonic for this system

label:

label: ; duplicate label definition

br nonesuch ; no such label

var1: ldc 25; a variable

SYMBOL	ADDRES
var1	6
label	5
label:	5(error)
nonesuch	-(error no address defined)

LITERAL	ADDRES
0	7
-5	8
+5	9
25	10

Analysis (Pass 2)

Now to check the working of pass 2 of the assembler we take the above code after removing the error and reconstruct the symbol table.

```
; test1.asm --->PC=0
    ldc var1 --->PC=0
label: ; an unused label---> PC=1
    ldc 0--->PC=1
    ldc -5--->PC=2
    ldc +5--->PC=3
var1: ldc 25--->PC=4
```

SYMBOL	ADDRES
var1	4
label	1

LITERAL	ADDRES
0	4
-5	5
+5	6

```
ldc var1 000000000000000000000000100 00000000
```

ldc 0

Idc -5

1111111111111111111101100000000

ldc +5

Value = +5 OP

Idc 25

Value = 25 OP



Thank you

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