

Pass I (i/p)



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1st MACRO defn

MACRO

M1 $\&x, \&y, \&A = AREG, \&B =$

MOVER $\&A, \&x$

ADD $\&A, = '1'$

MOVER $\&A = \&y$

ADD $\&A, = '5'$

MEND

2nd MACRO defn

MACRO

M2 $\&P, \&Q, \&U = CREG, \&V = DREG$

MOVER $\&U, \&P$

MOVER $\&V, \&Q$

ADD $U, = '15'$

ADD $V = '10'$

MEND

M1 10, 20, $\&B = CREG$

M2 100, 200, $\&V = AREG, \&U = BREG$

Pass II (o/p)



MNT

KPD TAB

1	M1	2	2	1	1	1	A	AREG
2	M2	2	2	6	3	2	B	-
	name	#PP	#KP	MDTP	KPDTP	3	U	CREG
						4	V	DREG

MDT (Pass I o/p)

M1 →	1	MOVER (P,3), (P,1)	PNTAB
	2	ADD (P,3), = '1'	1 - x
	3	MOVER (P,3), (P,2)	2 - y
	4	ADD (P,3), = '1'	3 - A
	5	MEND	4 - B
M2 →	6	MOVER (P,3), (P,1)	PNTAB
	7	MOVER (P,4), (P,2)	1 - P
	8	ADD (P,3), = '15'	2 - q
	9	ADD (P,4), = '10'	3 - U
	10	MEND	4 - V

IV

Pass II - Takes pass I data structures as i/p & processes the MACRO calls to produce expanded code.

Pass II (i/p) :- MNT, MDT, EPDTAB + (MACRO calls)

eg. M1 10, 20, & B = CREG

M2 100, 200, & V = AREG, & U = BREG

[Refer to the above macro generated data structures MNT, MDT, EPDTAB & process the two calls as follows :-]

↓ i/p to pass II

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* M1 10, 20, 2B = CREG

1) Create APTAB for M1

Size = # KP + # PP

= 2 + 2 = 4

APTAB for M1

O/P →
pass II

1	10	} — Positional para.
2	20	
3	AREG	} — Default from KPDTAB
4	CREG	} — CREG from call

Expanded code for Call to M1

→
O/P
pass II

+ MOVER AREG, 10
+ ADD AREG, = '1'
+ MOVER AREG, 20
+ ADD AREG, = '1'

* M2 100, 200, &V=AREG, &U=BREG

1) Create APTAB for M2

$$\begin{aligned} \text{Size} &= \#PP + \#FP \\ &= 2 + 2 \\ &= 4 \end{aligned}$$

APTAB for M2

1	100	}	positional para
2	200		
3	BREG	}	- overriding default
4	AREG	}	- overriding default

2) Expanded code for M2

```

+ MOVER BREG, 100
+ MOVER AREG, 200
+ ADD BREG, = '15'
+ ADD AREG, = '10'
  
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