

CD Assignment 2 — 079 KASHISH SRIVASTAVA

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ROLL-NO — 079

Q1.

$A := (-A + B) * ((-A + B) * C)$

(a) Convert the above code into tae (three address code):

$t_1 := -A$

$t_2 := t_1 + B$

$t_3 := -A$

$t_4 := t_3 + B$

$t_5 := t_4 * C$

$t_6 := t_2 * t_5$

$A := t_6$

(b) Quadruple

<u>#</u>	<u>operator</u>	<u>arg1</u>	<u>arg2</u>	<u>result</u>
(0)	uminus	A	-	t_1
(1)	+	t_1	B	t_2
(2)	uminus	A	-	t_3
(3)	+	t_3	B	t_4
(4)	*	t_4	C	t_5
(5)	*	t_2	t_5	t_6
(6)	:=	t_6	-	A

- means (empty)
~~empty~~

(b) (ii) Triple

<u>#</u>	<u>operator</u>	<u>arg1</u>	<u>arg2</u>
(0)	uminus	A	-
(1)	+	(0)	B
(2)	uminus	A	-
(3)	+	(2)	B
(4)	*	(3)	C
(5)	*	(1)	(4)
(6)	:=	A (5)	(5)

(b) (iii) Indirect triple

List of pointers to table

<u>#</u>	<u>statement</u>
(0)	(14)
(1)	(15)
(2)	(16)
(3)	(17)
(4)	(18)
(5)	(19)
(6)	(20)

<u>#</u>	<u>operator</u>	<u>arg1</u>	<u>arg2</u>
(14)	uminus	A	-
(15)	+	(14)	B
(16)	uminus	A	-
(17)	+	(16)	B
(18)	*	(17)	C
(19)	*	(15)	(18)
(20)	:-	A	(19)