18/6/23

Analytical - 12

S.NO = 33

1A) DAG three address code

$a = b + c$

$t_1 = a \times a$

$b = t_1 + a$

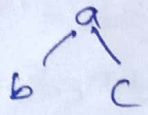
$c = t_1 \times b$

$t_2 = c + b$

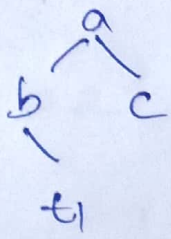
$a = t_2 + t_2$

DAG:-

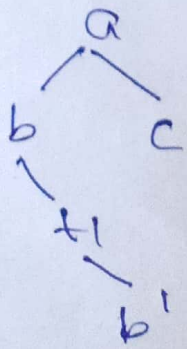
1. $a = b + c$



2. $t_1 = a * a$

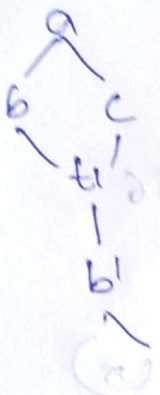


3. $b = t_1 + a$

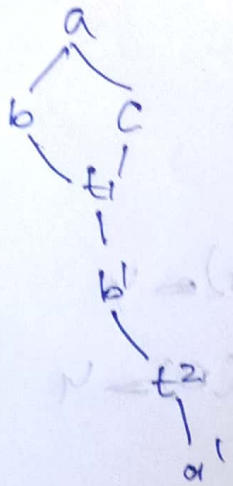


4. $c = t1 * b$

5. $t2 = c + b$



6 = $a = t2 + t2$



(2A) three address Statement

1. PROD = 0
2. I = 1
3. T2 = addr (A) – 4
4. T4 = addr (B) – 4
5. T1 = 4 x I
6. T3 = T3 x T5
7. T5 = T4 [T1]
8. T6 = T3 x T5
9. PROD = PROD + T6
10. I = I + 1
11. If I <= 20 Goto (5)

2. Basic Block:

B_1 : (1) PROD = 0
(2) I = 1

B_2 : (3) T2 = addr (A) – 4
(4) T4 = addr (B) – 4

B_3 (5) T1 = 4 x I
(6)
(7)
(8)
(9)
(10)
(11)