Name : Udoy Saha

ID : 23341134

Section : 06

String:- record { float [2][3] a ; int b; } P ;

offset = ∅ 48 52 ∅ 52

P

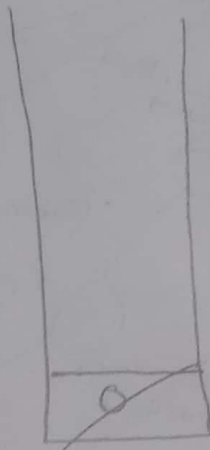M   D .type = record (top) = top1
                .width = 52

ε   T   id   ;   D
                    .lexeme = P   ε

record { D }   .type = array(2, array(3, float))
                        .width = 48

T t = float   id   ;   D
   w = 8   .lexeme = a

.type = float   .type = array(2, array(3, float))   .type = integer   t = integer   id   ;   D
.width = 8   .width = 48   .width = 4   w = 4   .lexeme = b   ε

B   C   T

float   [num]   C   .type = array(3, float)   B   C .type = integer
           .value = 2   .width = 24   .width = 4
                                    .type = integer
                    [num]   C   .width = 4   ε
                    .value = 3   int
                                .type = float
                                .width = 8
                                ε
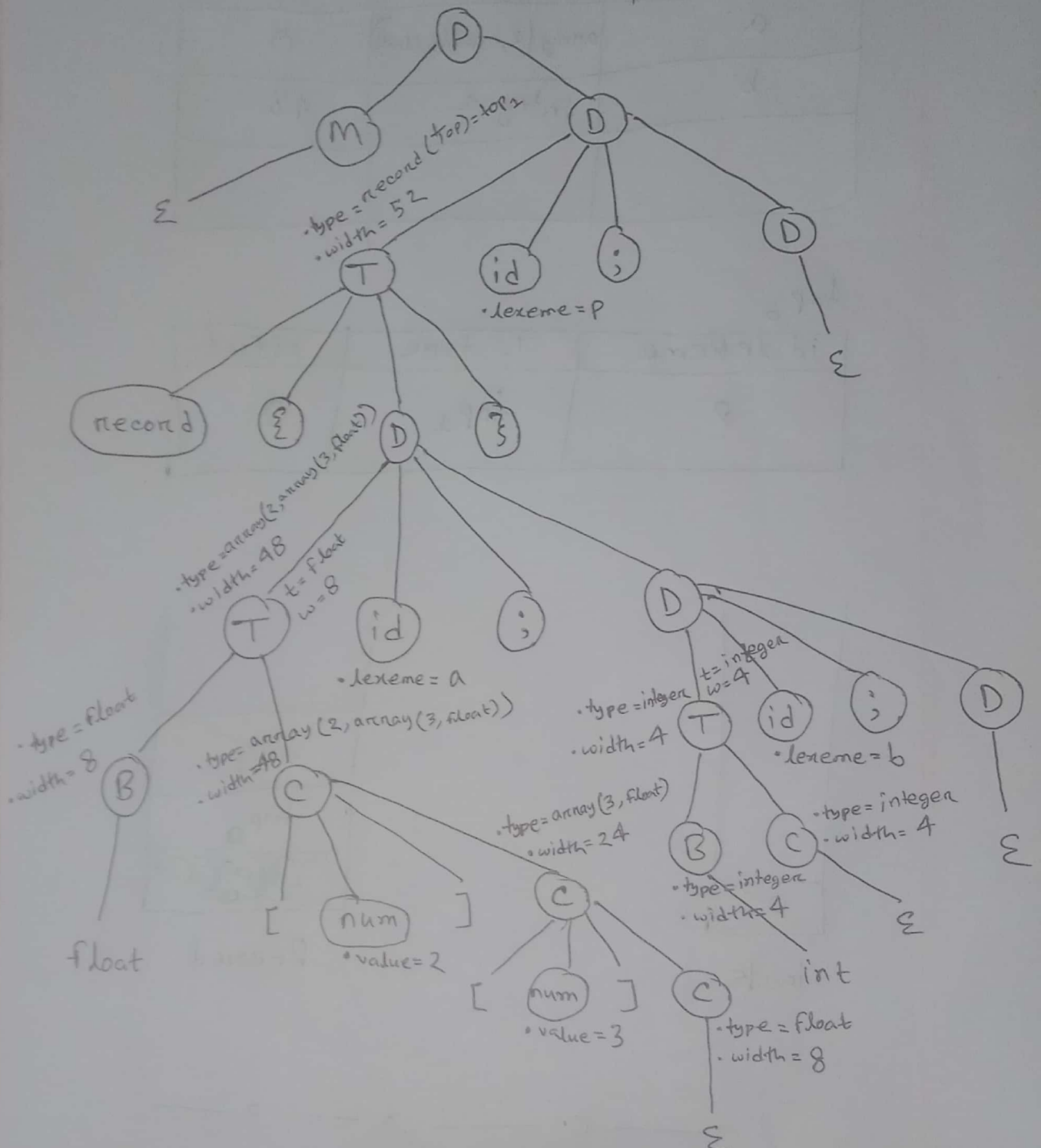
top_1

id. lexeme	T. type	offset
a	array (2, array(3, float))	0
b	integer	48

top_0

id lexeme	T. type	offset
p	top_1	0

Stack

Record

—— o —— λ — o ——
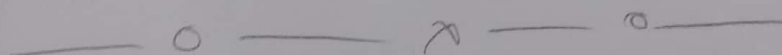
Ans to the ques no:- 2

Active symbol tables:-

Scope 1

main : void

argCount : int

argValues : char*[ ]

t : float

n : int

Scope 0

x : float

v : float

m : int [10] [20]

Scope 2

i : int

s : float

c : int

Scope 3

j : int

v : int

count : int

n : float

scope 4

m : float

top
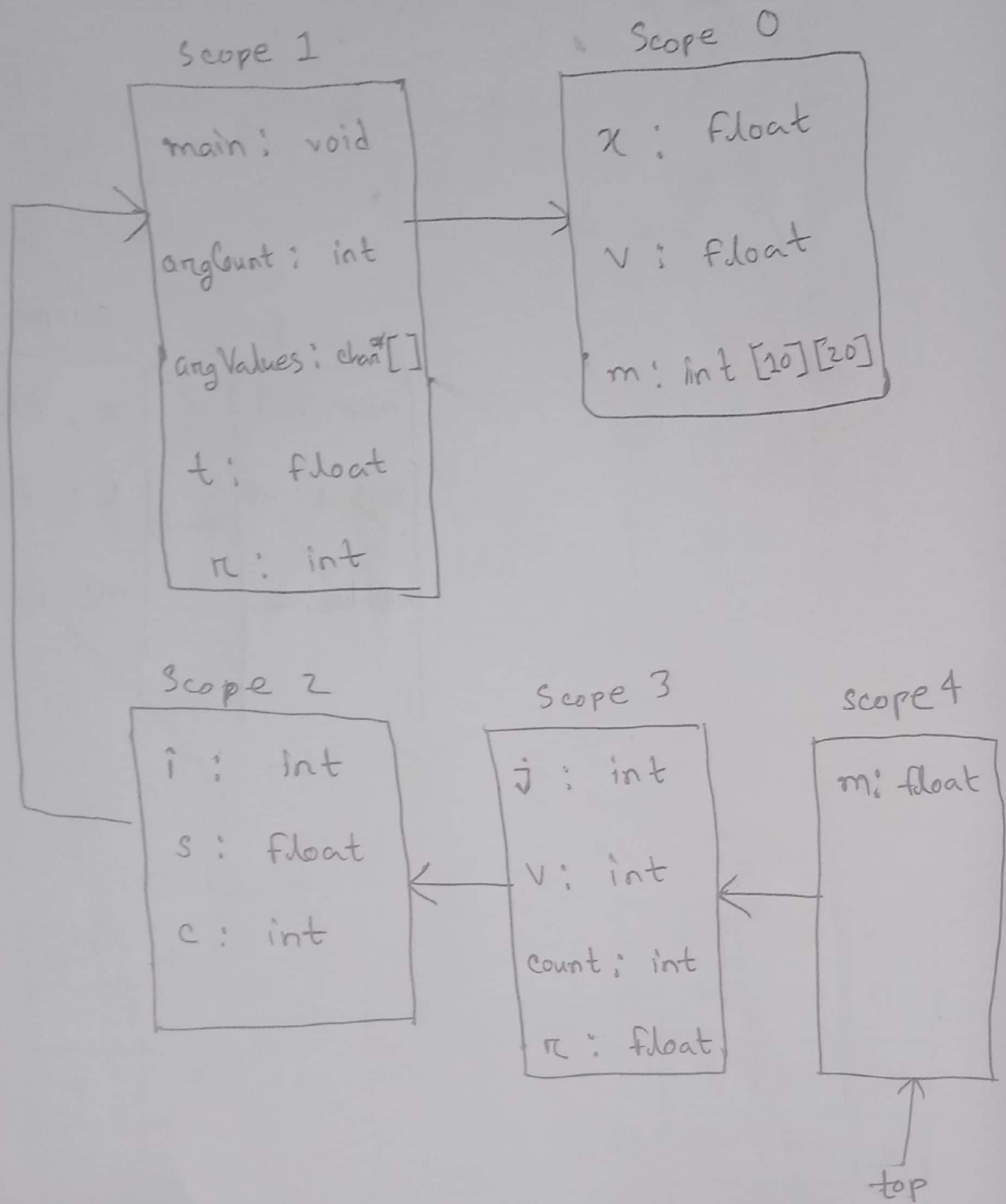
Ans to the ques no:-3

[a]

The three address code:-

$t_0 = a + a$

$t_1 = t_0 + t_0$

$t_2 = t_0 - a$

$t_3 = t_1 - t_2$

$$(a+a)+(a+a) - ((a+a)-a)$$
$$t_3$$

$(a+a)+(a+a)$ $(a+a)-a$
t_1 $+$ $-$ t_2

$+$ $(a+a)$
t_0

a
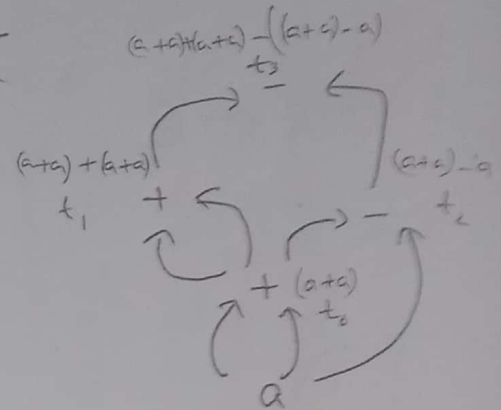
[b]

Quadruples

OP	arg1	arg2	Result
+	a	a	t_0
+	t_0	t_0	t_1
—	t_0	a	t_2
—	t_1	t_2	t_3

Triples

	OP	arg1	arg2
(0)	+	a	a
(1)	+	(0)	(0)
(2)	—	(0)	a
(3)	—	(1)	(2)

— o —— ✕ —— o —