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Ans 1.

(i) String contain even no of 1's.

$$(0^* 1 0^* 1 0^*)^*$$

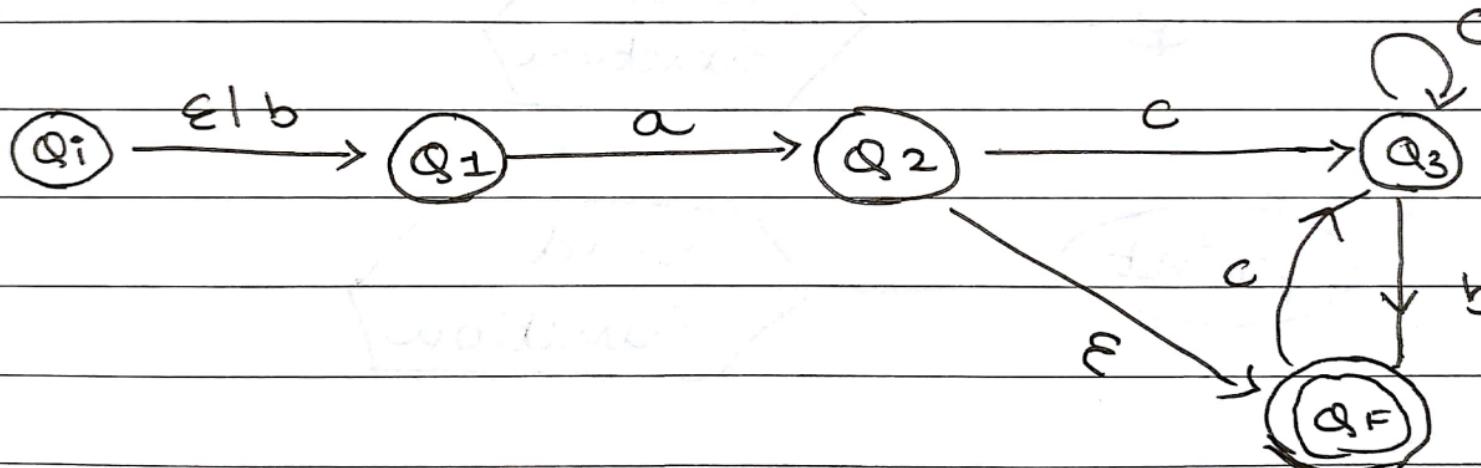
(ii) String divisible by 4.

$$((011)^+ 00) ? 0^*$$

Ans 2.

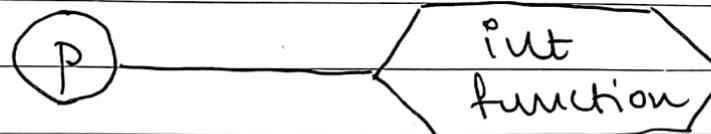
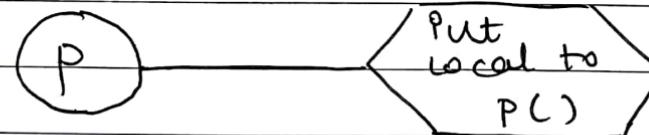
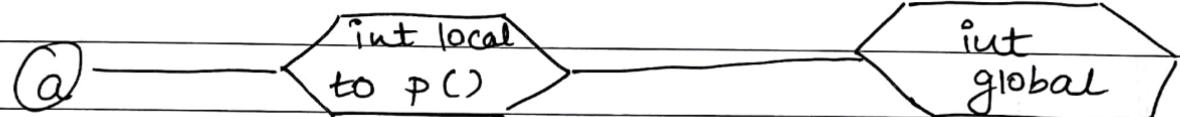
Automaton accepts regular expression

$$b? \cdot a (c^+ b)^*$$

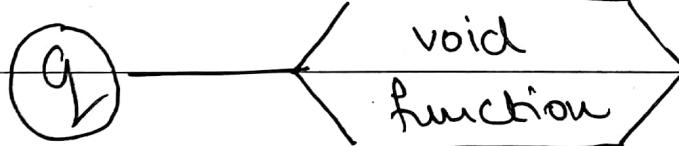
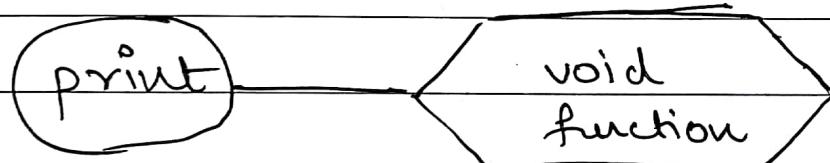
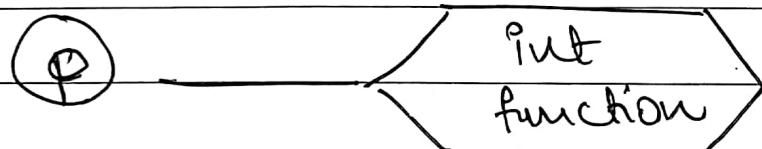
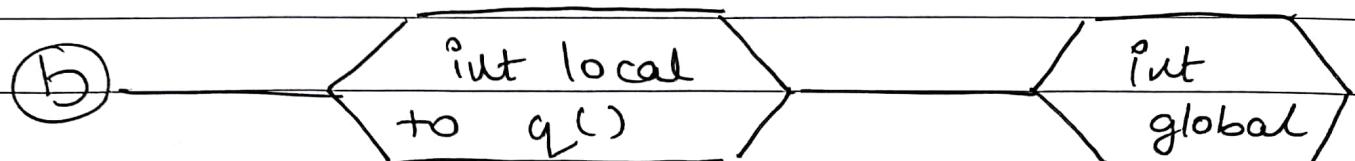
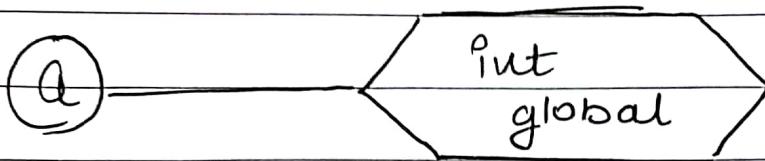


Ans 3.

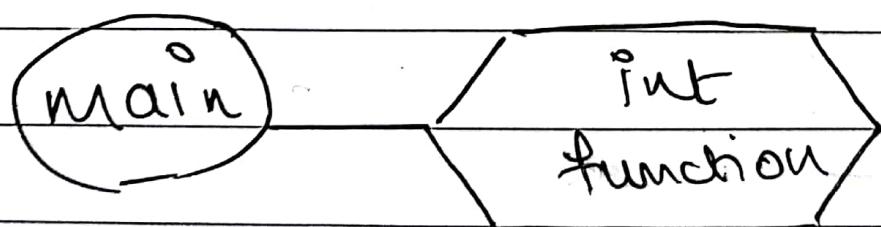
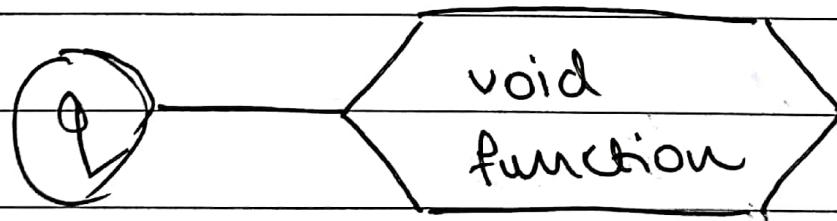
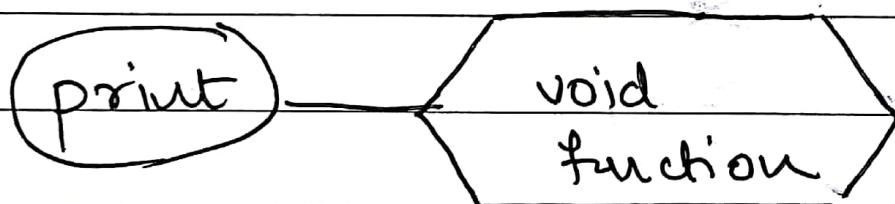
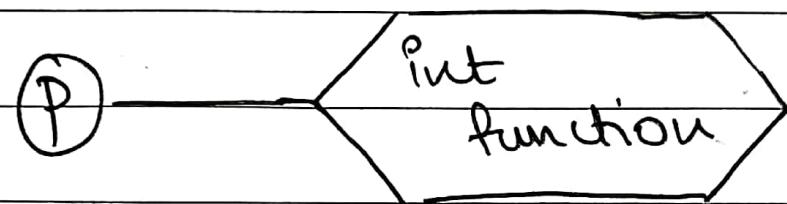
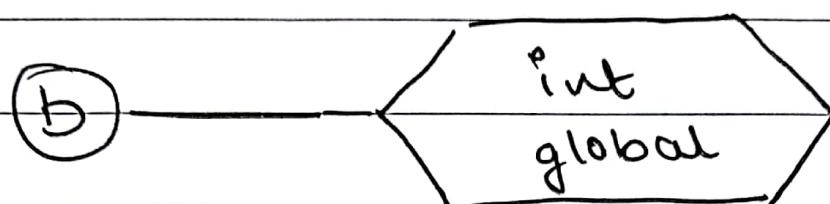
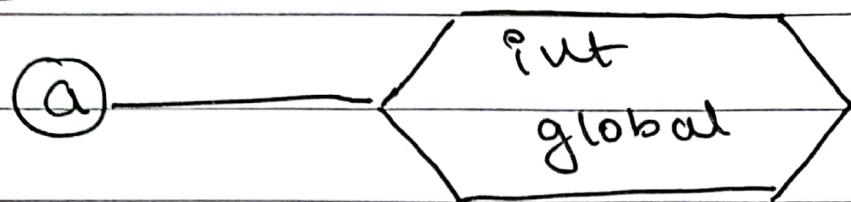
(a) Point 1.



## Point 2.



### Point 3.



(b)

Static Scope.

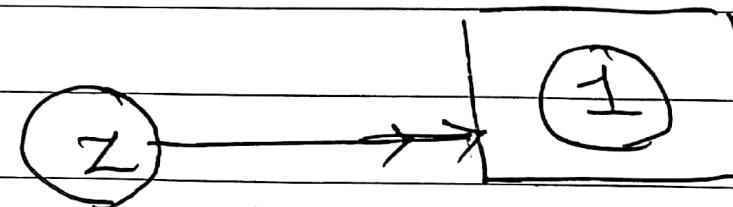
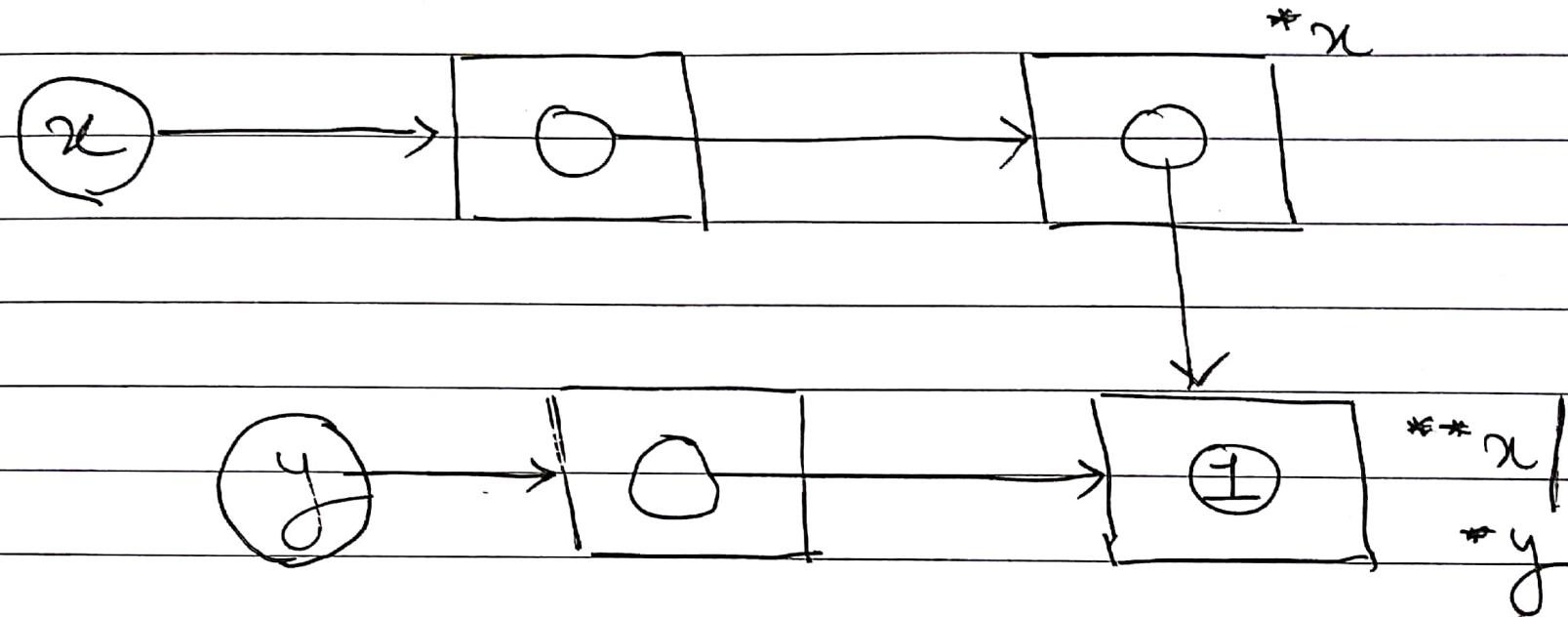
Program prints.       $a = 3$        $b = 1$ .

Dynamic Scope.

Program prints       $a = 3$        $b = 4$ .

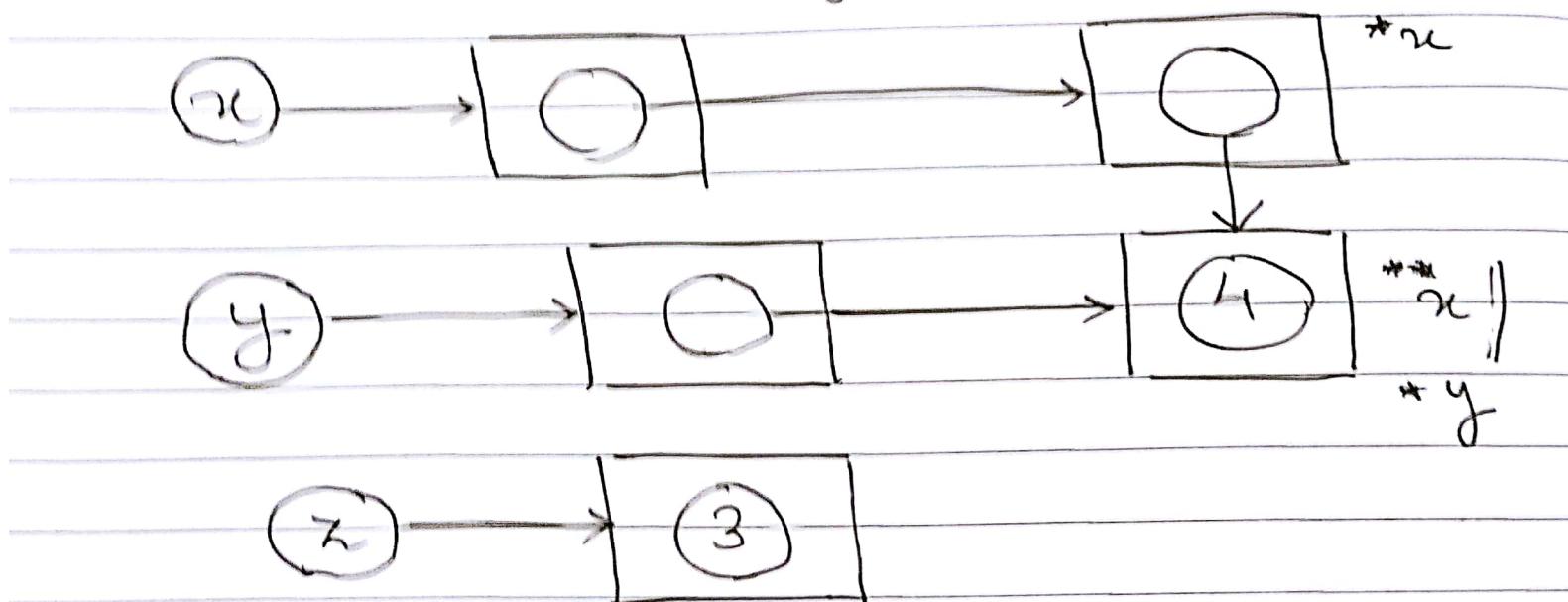
Ans 4.

Line 14.



$\ast \ast u$   $\&$   $\ast y$  are aliases

Box & Circle diagram at Line 15



$**\text{x}$  &  $*y$  are aliases at line 15

Output

line 12  $\rightarrow *y = 1$ .

line 14  $\rightarrow *y = 1$

line 16  $\rightarrow \text{z} = 3$

## Answer 5.

First Print Statement Output				
	i	a[0]	a[1]	a[2]
Call by Value	1	2	1	0
Call by Reference	1	2	1	0
Call by name	0	2	1	2

Second Print Statement Output			
	a[0]	a[1]	a[2]
Call by Value	2	1	0
Call by Reference	2	0	0
Call by name	0	1	2