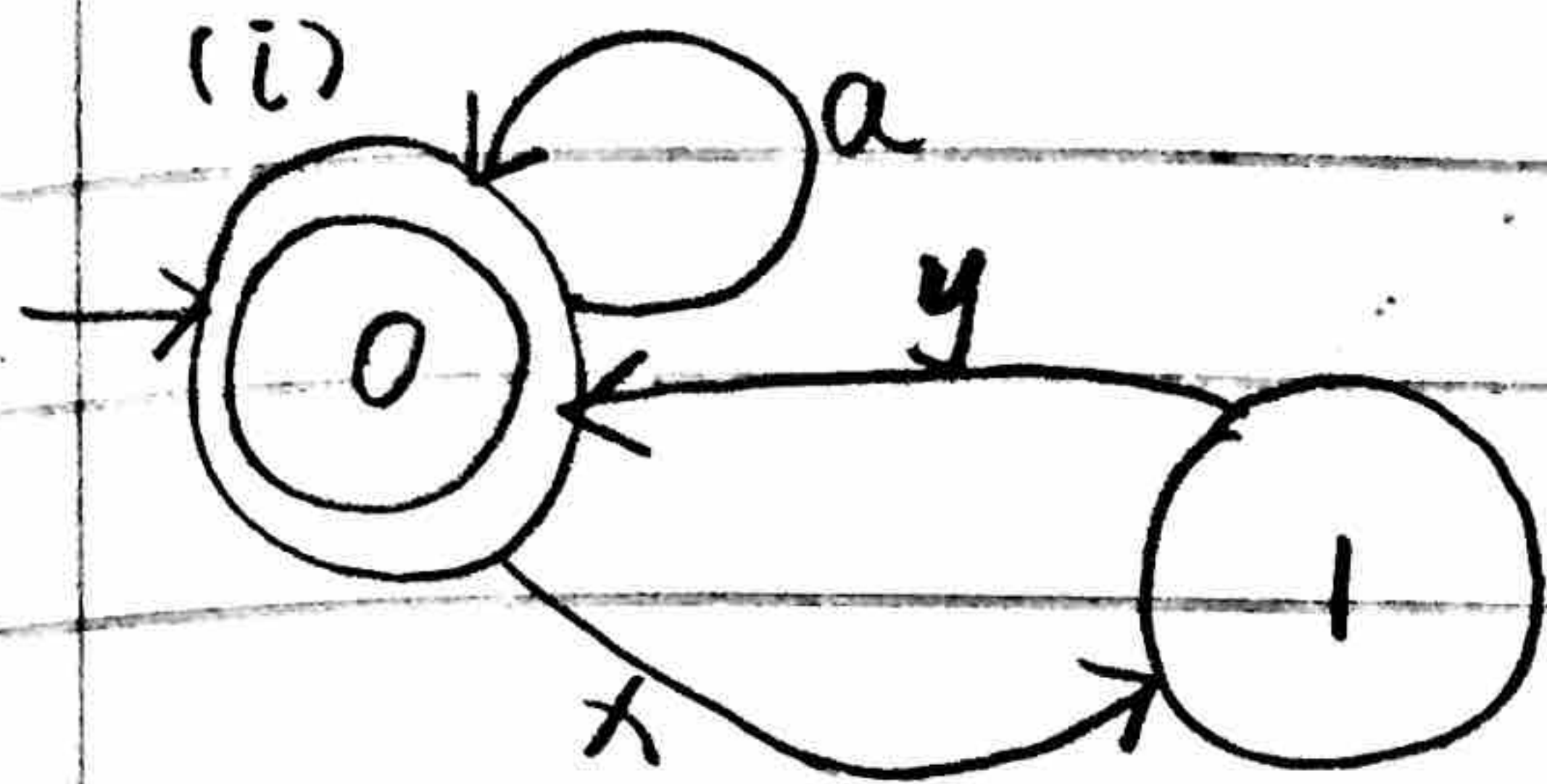


Part I.

1. (a) $(a | xy)^*$

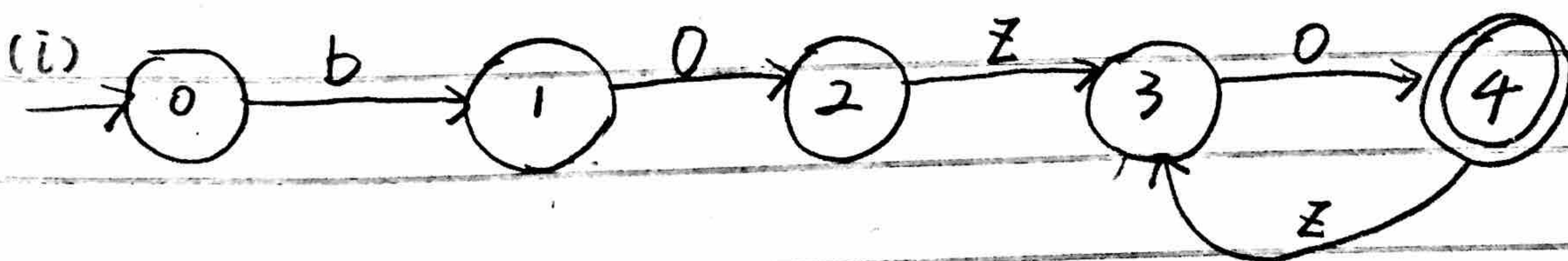


(ii) Can = axy xya

Cannot = yx yax

(iii) All strings consisting of 0 or more occurrences of "a", or 0 or more occurrences of "xy".
 "a" and "xy" can be placed in any order,
 but "x" and "y" can only exist as "xy".

(b) $b(0z)^+0$

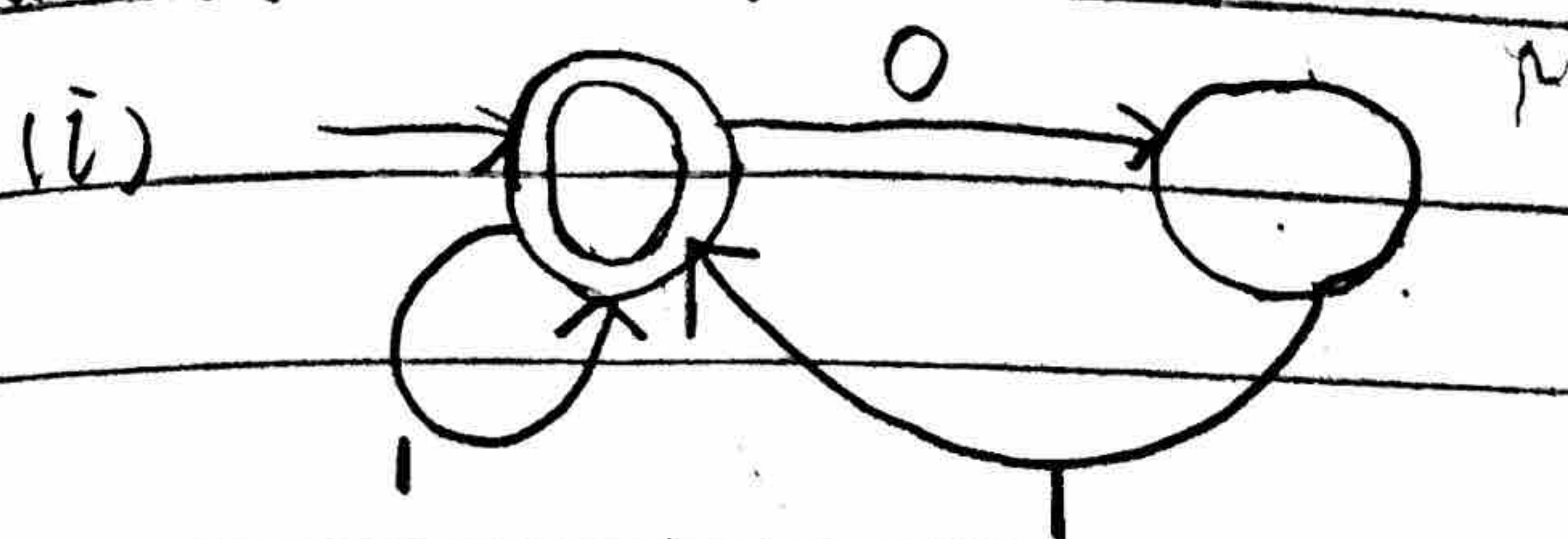


(ii) Can = $b0z0$ $b0z0z0$

Cannot = $b0$ $b0z$

(iii) All strings consisting of one occurrence of "b" followed by one or more occurrences of "0z" followed by one occurrence of "0".

(C) $((\epsilon|0)1)^*$



(ii) can = 0101 0111

cannot = 1000 10

(iii) All strings consisting of 0 or more occurrences of } an empty string followed by a "1" or a "0" followed by a "1".

2. (a) $b^* a b^* a b^* (ab^*)^+$

(b) $a^* (bb)^* a^*$

(c) $nv ::= [b-df-hj-np-tv-z]$

$nv^* a nv^* e nv^* i nv^* o nv^* u nv^*$

3.

$(0[0-7]^+ | 0[Xx][0-9A-Fa-f]^+ | [0-9]^+ \wedge ([0U]?[LL]?))$
 $([LL]?[uU]?)$