

Domino
Sodoku

1.

FIND-SET(X, S)

VECTOR<NODE> A

A. pushback (X)

$y = X$

while ($y \neq S_{\text{root}}$)

$y = y.p$

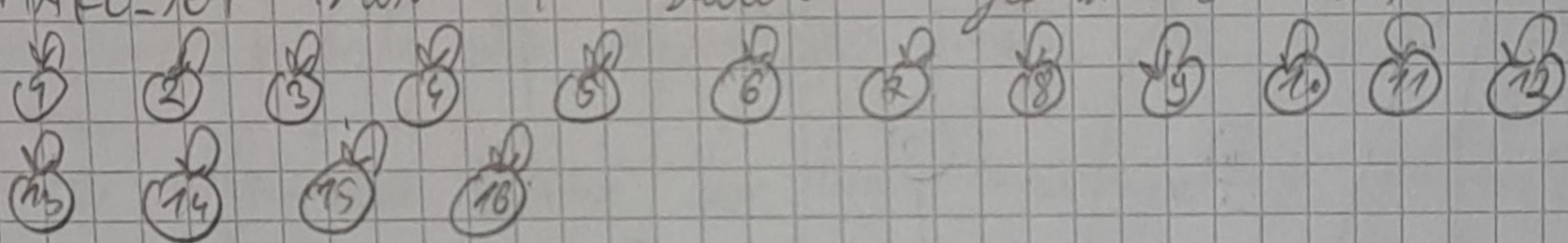
A. pushback (y)

for each node in A

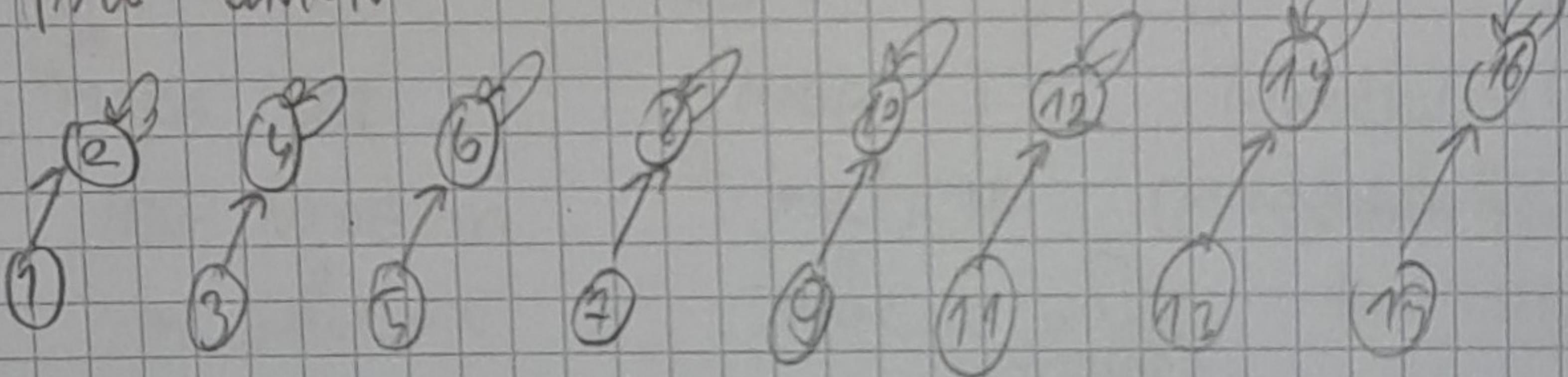
node.p = y

2.

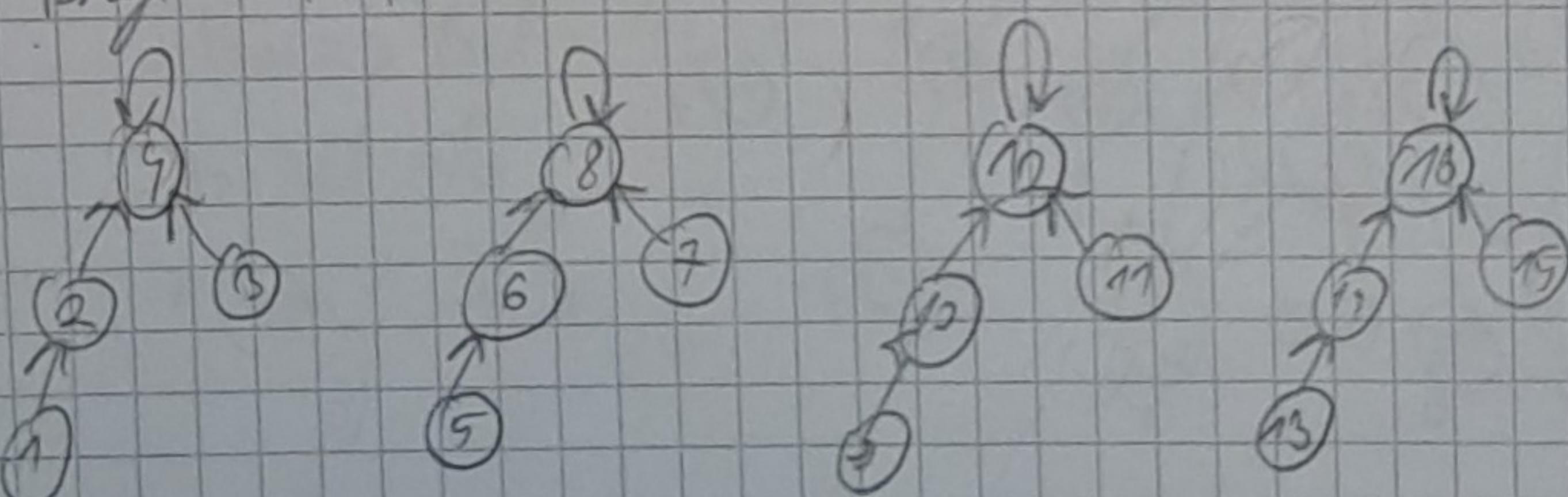
MAKE-SET return 16 stable \Rightarrow get min element,



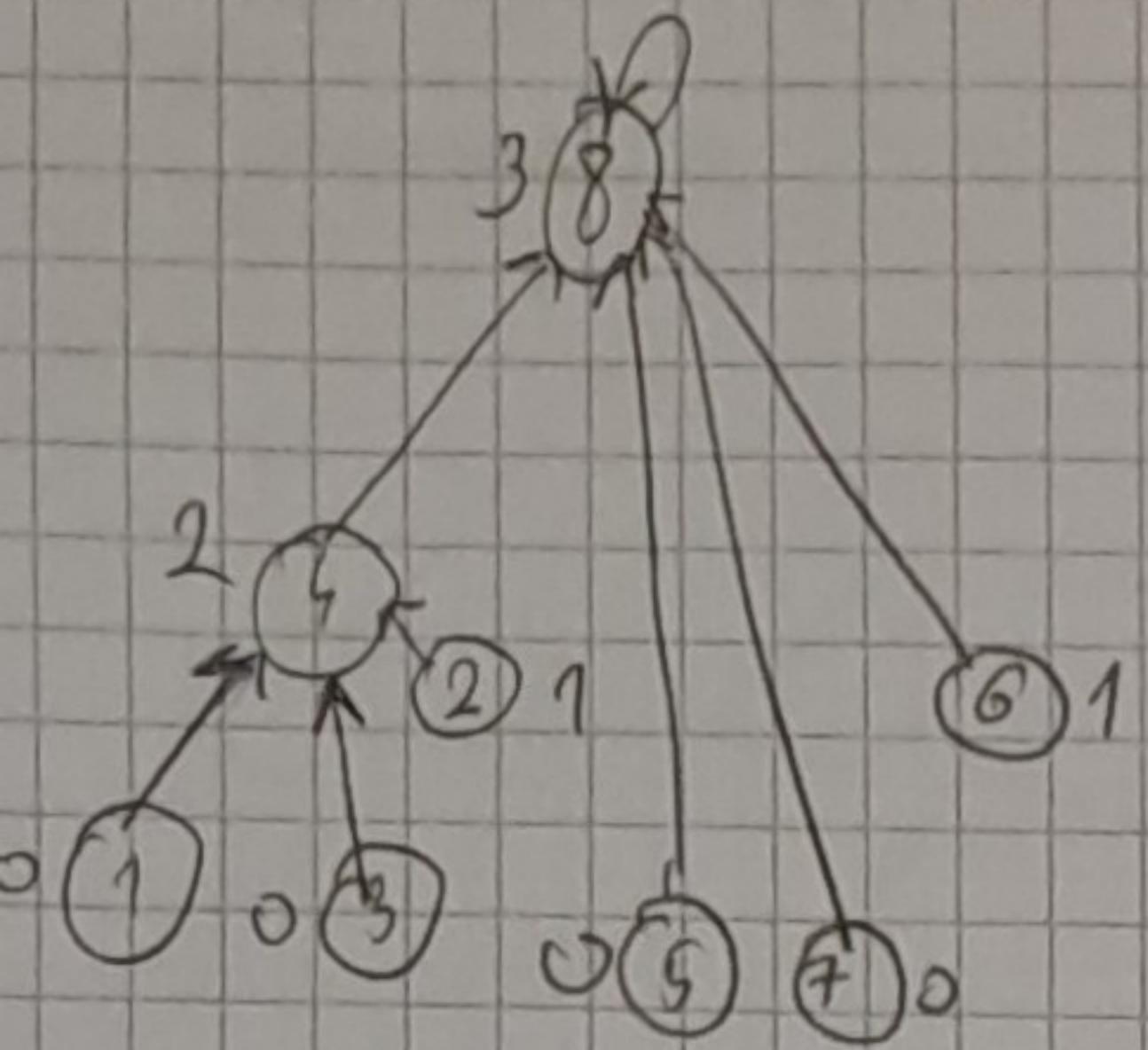
Prim UNION



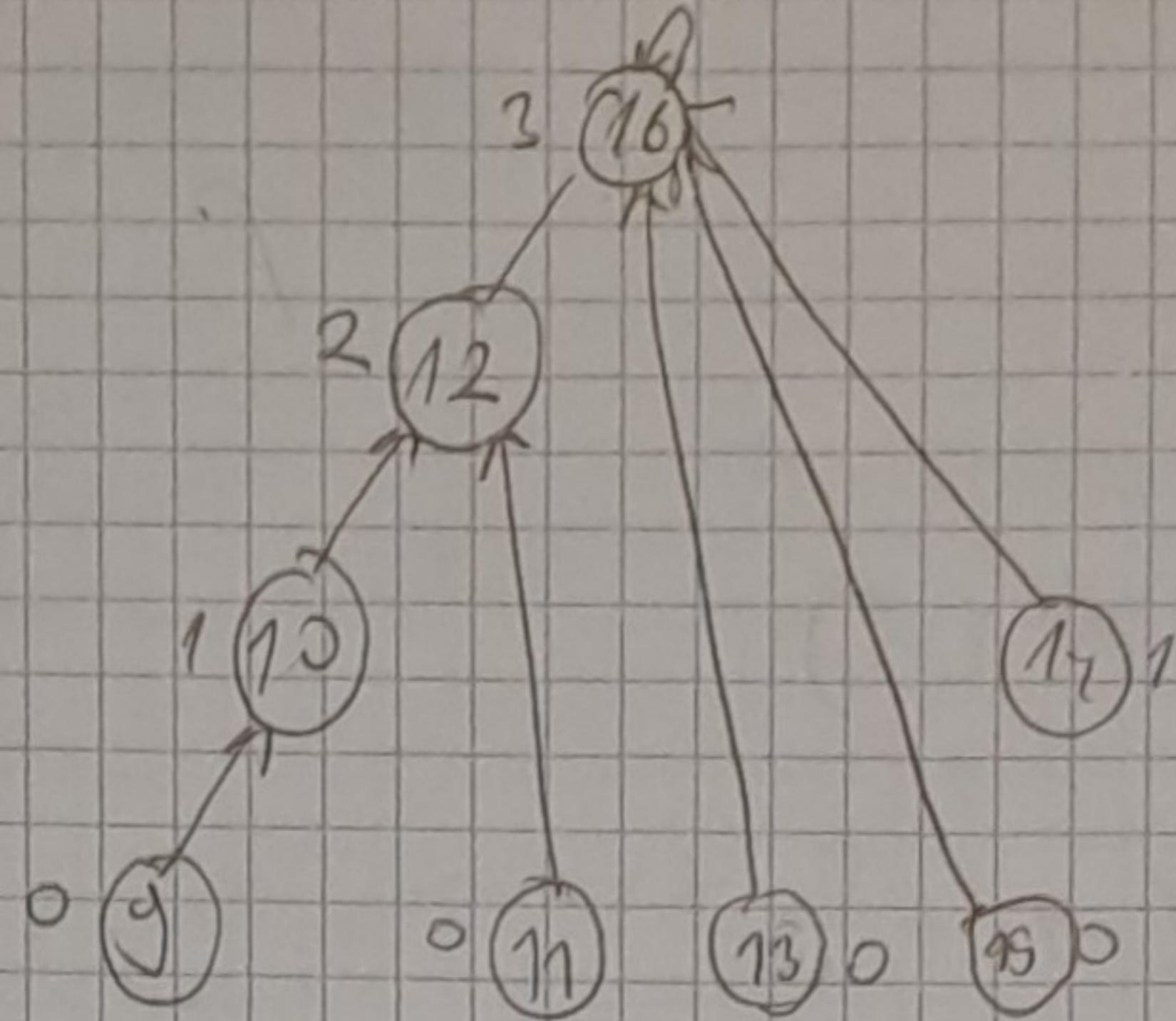
Djikstra UNION



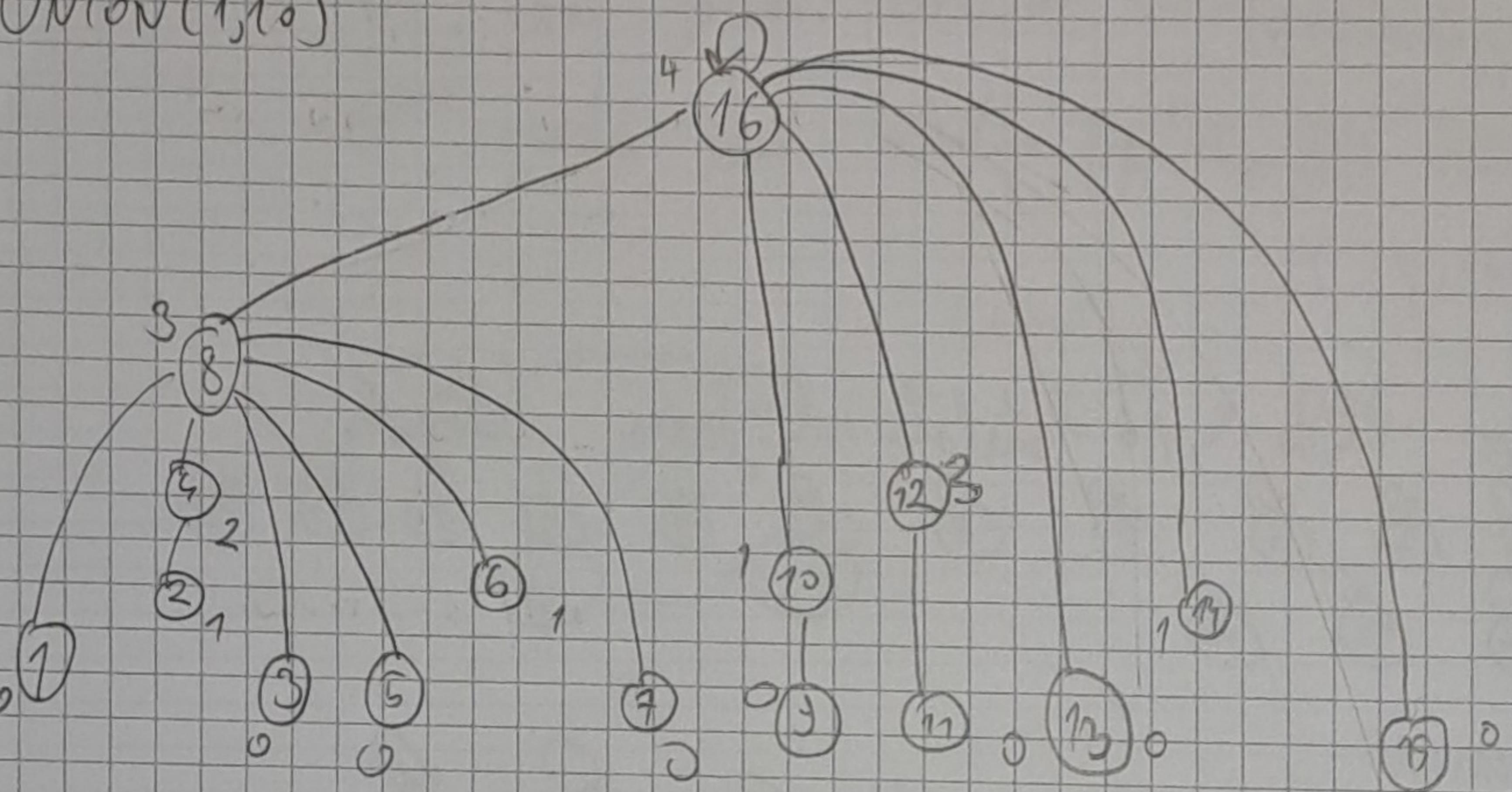
UNION(1,5)



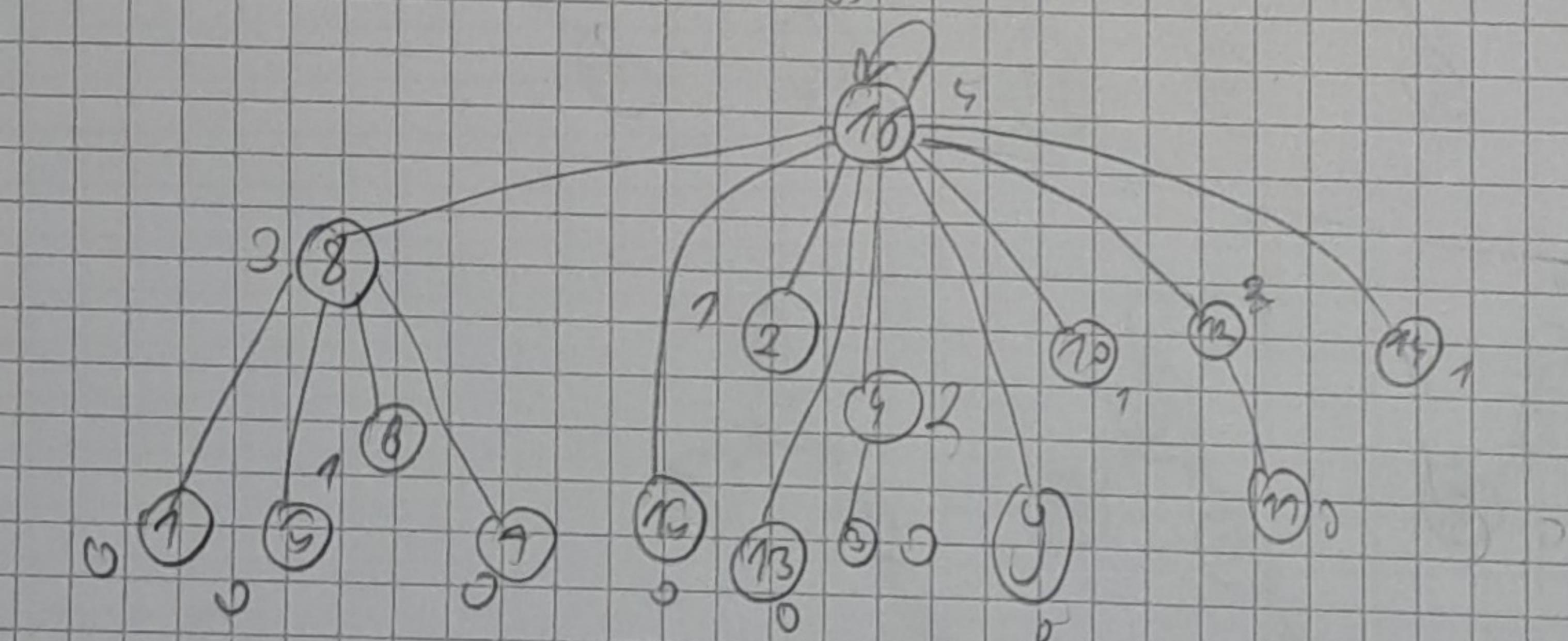
UNION(11,13)



UNION(1,10)



FIND_SET(2), FIND_SET(8)



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3. for  $i = 1$  to  $m$ 
    MAKE-SET( $x[i]$ )
    for  $i = 1$  to  $k$ 
        for  $j = 1 \dots m' - 2^i ; j+2^i$ 
            UNION( $x[i], x[i+2^i]$ )
    for  $i = 1$  to  $m$ 
        FIND-SET( $x[i]$ )

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Pretvorimo da je $m' = 2k$ nymoyu potencju bzi 2 mozi $\propto m$.
 Brzo se iteruje fiz loga indeksima j , cimmo do
 element x_1, \dots, x_m na u oblicu duline i . Kada donuni
 vognihi fiz petku, cimmo x_1, \dots, x_m mi leži u vitem retu
 ob ne ri maloz u retku oblicu $k \leq \Omega(\log m)$. Prito
 konstantne pozicije FIND-SET mi prehnet bzi gi udejci $\log m$
 ed tunc predstornika, cimmo da meri tunc $\log m$ vremeni.
 Čnai alijsyajsi volji fiz log bredujnu gi fudam
 $\Omega(\log m)$.

4. MAKE-SET(X)	NODE()	LINKED-LIST()
NEW NODE m	next = NIL	head = NIL
m.value = x	value = 0	tail = NIL
LINKED-LIST S	ret = NIL	list = 1
S.head = S.tail = m	FIND-SET(y)	
m.next = S	return X.ret.head	
return S		

\cup UNION(X, Y)

$S_1 = X.\text{root}$

$S_2 = Y.\text{root}$

if $S_1.\text{size} > S_2.\text{size}$

$S_1.\text{head}.\text{next} = S_2.\text{head}$

$\text{it} = S_2.\text{head}$

while $\text{it} \neq \text{nil}$:

$\text{it}.\text{next} = S_1$

$\text{it} = \text{it}.\text{next}$

$S_1.\text{tail} = S_2.\text{tail}$

$S_1.\text{size} = S_1.\text{size} + S_2.\text{size}$

return S_1

else:

$S_2.\text{head}.\text{next} = S_1.\text{head}$

$\text{it} = S_1.\text{head}$

while $\text{it} \neq \text{nil}$:

$\text{it}.\text{next} = S_2$

$\text{it} = \text{it}.\text{next}$

$S_2.\text{tail} = S_1.\text{tail}$

$S_2.\text{size} = S_1.\text{size} + S_2.\text{size}$

return S_2

b. do radi element a rupu, mo poje mada poruke
mo sodnji element poresone, krite uzyto mi uzm
element rupu. Ovo omoguava effektivno prenalaženje
sodnjeg elementa rupu, to je da se može bez prianjanja
mjerom podeliti. Pratim uovo 2 formacije hig
tige O(1). Međutim, prilikom upoznje ovih međunarodnih
rupova, moram biti opremljen predstavnik rupu i
mole sodnji element poresone kada je ometi da moje
rupi imaju istaknut izvedeni redosredjavanje prema
specifičnim predstavnicima rupu uvelim
upoznje.