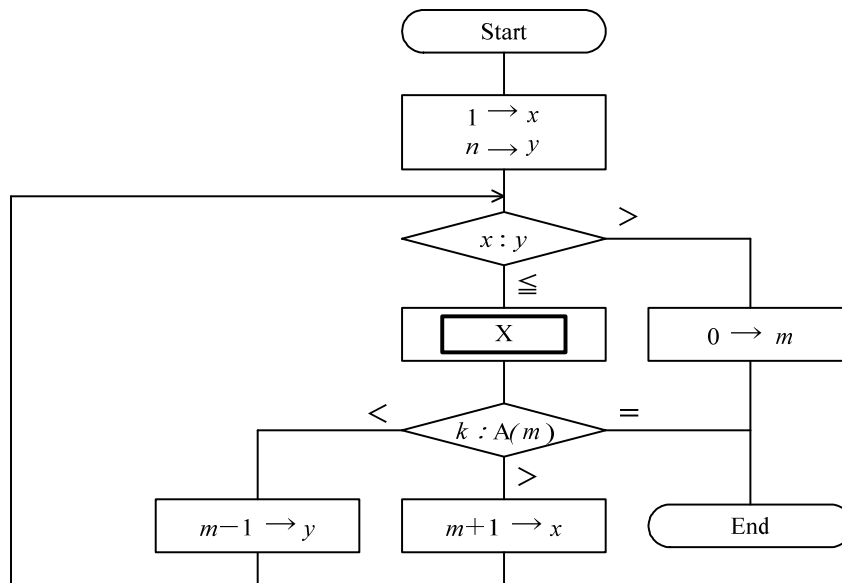**Q16.** The flowchart below shows a binary search algorithm to find the index m of the array element $A(m)$, such that the equation "$A(m) = k$" holds, from the array elements $A(1)$, $A(2)$, …, $A(n)$ already sorted in ascending order. In case of "$m = 0$" at the end, there is no element such that the equation "$A(m) = k$" holds. Which of the following is inserted in the process box ⬚ X ⬚ in the flowchart? Here, the slash (/) indicates division that truncates all digits after the decimal point.


```
                        ( Start )
                            |
                    +---------------+
                    |  1  → x       |
                    |  n  → y       |
                    +---------------+
                            |
        +------------------>|
        |                   |
        |               <  x : y  >           >
        |                   | ≦
        |              +---------+        +---------+
        |              |    X    |        |  0 → m  |
        |              +---------+        +---------+
        |                   |                  |
        |          <    k : A( m )   >  =      |
        |          <                 >         |
        |       <                       |
        |   +-----------+    | >    +-----------+    ( End )
        |   | m−1 → y   |    |      | m+1 → x   |
        |   +-----------+    |      +-----------+
        |         |          |            |
        +---------+          +------------+
```

a) $(x + y)$ → m

b) $(x + y) / 2$ → m

c) $(x - y) / 2$ → m

d) $(y - x) / 2$ → m