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```
Algorithm Binary_Search (X, n, z);
Input: X (a sorted array in the range 1 to n), and z (the search key).
Output: Position (an index i such that X[i] = z, or 0 if no such index
exist.)

begin
Position := Find (z,1,n);
end

function Find (z, Left, Right) : integer;
begin
if Left = Right then
if X[Left] = z then Find := Left
else Find := 0
else
Middle := ⌈(Left + Right)/2⌉;
if z < X[Middle] then
Find := Find (z, Left, Middle - 1)
else
Find := Find (z, Middle, Right)
end
```