

Algorithm: BinarySearch

```
1 Procedure BinarySearch( $A, x$ )
2   low  $\leftarrow 0$ 
3   high  $\leftarrow |A| - 1$ 
4   while  $low \leq high$  do
5     i  $\leftarrow \lfloor low + high_{\frac{1}{2}} \rfloor$ 
6     if  $A[i] = x$  then
7       return true
8     else if  $A[i] > x$  then
9       high  $\leftarrow i - 1$ 
10    else
11      low  $\leftarrow i + 1$ 
```

end