

## BINARY SEARCH

### Binary Search ( ):

**Description:** Here **A** is a sorted array having **N** elements. **ITEM** is the value to be searched. **BEG** denotes first element and **END** denotes last element in the array. **MID** denotes the middle value.

1. Set  $BEG = 1$  and  $END = N$
2. Set  $MID = (BEG + END) / 2$
3. Repeat While  $(BEG \leq END)$  and  $(A[MID] \neq ITEM)$
4.     If  $(ITEM < A[MID])$  Then
5.         Set  $END = MID - 1$
6.     Else
7.         Set  $BEG = MID + 1$
8.     [End of If]
9.     Set  $MID = (BEG + END) / 2$
10. [End of While Loop]
11. If  $(A[MID] == ITEM)$  Then
12.     Print: ITEM exists at location MID
13. Else
14.     Print: ITEM doesn't exist
15. [End of If]
16. Exit