than a of Mid continue the search in the second half of the array by changing lb to Mid+1. This proces will be continued when key is not equal to a of Mid (when searching value is not found) & lb is less then or equal to ub (when there are elments to compare)

When one of the condition becomes false control will be passed out of the loop & if key value is equal to a of Mid then search is succesfull otherwise search is failuer.

Trace of binary search

Assuming A is an Array of n elments having following values in Asending order & key value is one which is to be searching.