**class** ExponentialSearch

{

**private** **static** **int** binarySearch(**int**[] A, **int** left, **int** right, **int** x)

{

**if** (left > right) {

**return** -1;

}

**int** mid = (left + right) / 2;

**if** (x == A[mid]) {

**return** mid;

}

**else** **if** (x < A[mid]) {

**return** *binarySearch*(A, left, mid - 1, x);

}

**else** {

**return** *binarySearch*(A, mid + 1, right, x);

}

}

**public** **static** **int** exponentialSearch(**int**[] A, **int** x)

{

**if** (A == **null** || A.length == 0) {

**return** -1;

}

**int** bound = 1;

**while** (bound < A.length && A[bound] < x) {

bound \*= 2;

}

**return** *binarySearch*(A, bound/2, Integer.*min*(bound, A.length - 1), x);

}

**public** **static** **void** main(String[] args)

{

**int**[] A = {2, 5, 6, 8, 7, 10};

**int** key = 6;

**int** index = *exponentialSearch*(A, key);

**if** (index != -1) {

System.***out***.println("Element found at index " + index);

}

**else** {

System.***out***.println("Element not found in the array");

}

}

}