11 B. BINARY SEARCH

```java
package searching;

public class binarySearch {
        // Function to perform binary search
    static void BinarySearch(int[] array, int key) {
        int low = 0;
        int high = array.length - 1;

        while (low <= high) {
            int mid = (low + high) / 2;

            // Check if the key is present at the middle
            if (array[mid] == key) {
System.out.println("Element " + key + " found at index " + mid);
return;
            }

            // If the key is greater, ignore the low half
            if (array[mid] < key) {
                low = mid + 1;
            }

            // If the key is smaller, ignore the high half
            else {
                high = mid - 1;
            }
        }

    System.out.println("Element " + key + " not found in the array");
      }

    public static void main(String[] args) {
        int[] array = {1, 2, 3, 4, 5, 6, 7, 8, 9};
        int key = 5;

        // Perform binary search
        BinarySearch(array, key);

    }
  }
```