

```
package com.simply;
```

```
import java.util.Arrays;
```

```
import java.util.Scanner;
```

```
public class Binary {
```

```
    public static int binarySearch(int[] arr, int target) {
```

```
        int left = 0;
```

```
        int right = arr.length - 1;
```

```
        while (left <= right) {
```

```
            int mid = left + (right - left) / 2;
```

```
            if (arr[mid] == target) {
```

```
                return mid;
```

```
            } else if (arr[mid] < target) {
```

```
                left = mid + 1;
```

```
            } else {
```

```
                right = mid - 1;
```

```
            }
```

```
        }
```

```
        return -1;
```

```
    }
```

```
    public static void main(String[] args) {
```

```
        int[] array = { 2, 5, 7, 10, 13, 18, 22, 25, 30 };
```

```
        System.out.println("Enter the number to search:");
```

```
        Scanner scanner = new Scanner(System.in);
```

```
int target = scanner.nextInt();

scanner.close();

int index = binarySearch(array, target);

if (index != -1) {
    System.out.println("Element found at index " + index);
} else {
    System.out.println("Element not found");
}
}
```

