Writing a program in Java implementing the exponential search algorithm

```java
package P5;

import java.util.Arrays;

public class exponentialSearch {

    public static void main(String[] args) {

        int[] arr = { 10, 20, 30, 40, 50 };
        int length = arr.length;
        int value = 20;
        int outcome = exponentialSearch(arr, length, value);

        if (outcome < 0) {

            System.out.println("Element is not present in the array");

        } else {

            System.out.println("Element is  present in the array at
index :" + outcome);
        }

    }

    public static int exponentialSearch(int[] arr, int length, int value) {

        if (arr[0] == value) {
            return 0;
        }
        int i = 1;
        while (i < length && arr[i] <= value) {

            i = i * 2;
        }
        return Arrays.binarySearch(arr, i / 2, Math.min(i, length),
value);
    }

}
```

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    }

    public static int exponentialSearch(int[] arr, int length, int value) {

        if (arr[0] == value) {
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        while (i < length && arr[i] <= value) {

            i = i * 2;
        }
        return Arrays.binarySearch(arr, i / 2, Math.min(i, length), value);
    }
}
```

<terminated> exponentialSearch [Java Application] C:\Users\saibl\Downloads\sts-4.15.1.I
Element is present in the array at index :1