2.Writing a program in Java implementing the binary search algorithm

```
package javafsd4;

public class binarySearch {

	public static int find(int arr[],int search) {
		int start=0;
		int end=arr.length-1;

		while(start<=end) {
			int mid=(start+end)/2;
			if(search>arr[mid])
				start=mid+1;
			else if(search<arr[mid])
				end=mid-1;
			else
				return mid;
			}
		return-1;
	}}
```

```
package javafsd4;

import java.util.Scanner;

public class BS_Main {

	public static void main(String[] args) {
		int[] arr= {2,4,6,8,10,12,14,16,18,20};
	   Scanner sc = new Scanner(System.in);
	   System.out.println("Enter the element to be searched");
	   int search = sc.nextInt();
	   int result=binarySearch.find(arr,search);
```

```
    if(result==-1){
          System.out.println("Element not Found");
     } else {
         System.out.println("Element found at index of "+result+"
          and the   search element is "+arr[result]);
     }

}}
```

OUTPUT