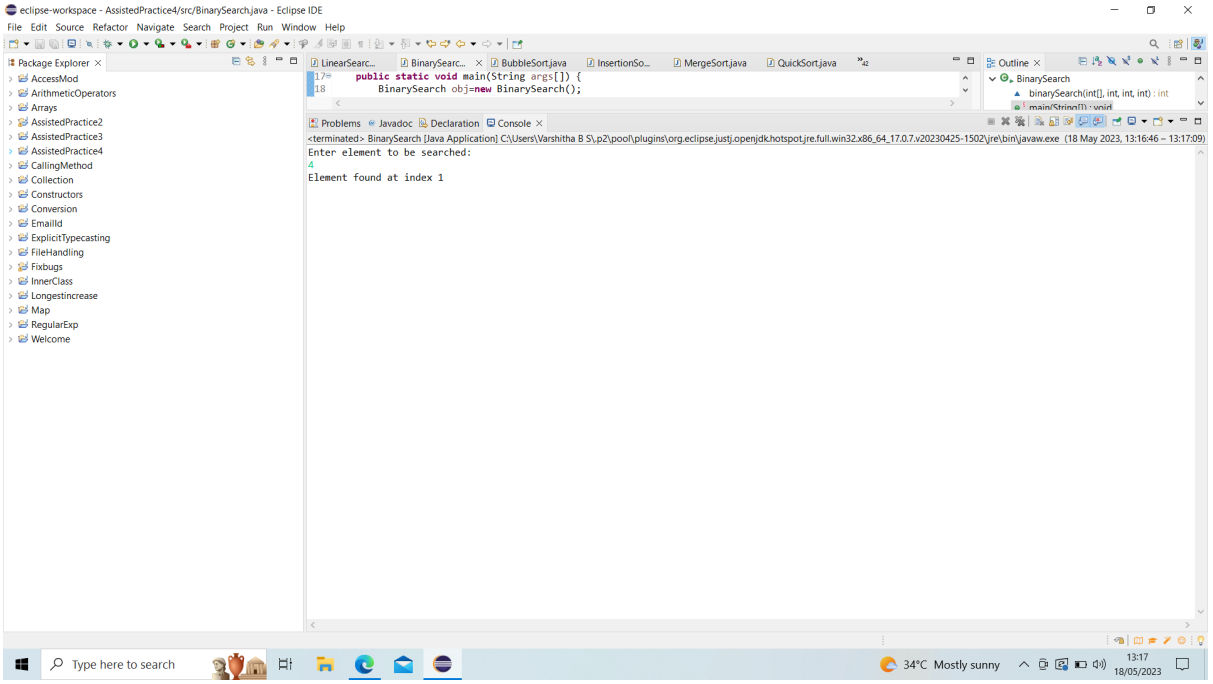
Phase-1 Practice Project: Assisted Practice

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

Source code:

```
import java.util.Scanner;
public class BinarySearch {
	int binarySearch(int array[], int element,int low,int high) {
		while(low<=high) {
			int mid=low+(high-low)/2;
			if(array[mid]==element)
				return mid;
			if(array[mid]<element)
				low=mid+1;
			else
				high=mid-1;
		}
		return -1;
	}
	public static void main(String args[]) {
		BinarySearch obj=new BinarySearch();

	int[]array= {3,4,5,6,7,8,9};
	int n=array.length;

	Scanner input=new Scanner(System.in);
	System.out.println("Enter element to be searched:");

	int element=input.nextInt();
	input.close();

	int result=obj.binarySearch(array, element,0,n-1);
	if(result==-1)
		System.out.println("Not found");
	else
		System.out.println("Element found at index " + result);
	}
}
```

Output:


eclipse-workspace - AssistedPractice4/src/BinarySearch.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
AccessMod
ArithmeticOperators
Arrays
AssistedPractice2
AssistedPractice3
AssistedPractice4
CallingMethod
Collection
Constructors
Conversion
EmailId
ExplicitTypecasting
FileHandling
Fixbugs
InnerClass
Longestincrease
Map
RegularExp
Welcome
LinearSearc...
BinarySearc...
BubbleSort.java
InsertionSo...
MergeSort.java
QuickSort.java
17 public static void main(String args[]) {
18 BinarySearch obj=new BinarySearch();
Outline
BinarySearch
binarySearch(int[], int, int, int) : int
main(String[]) : void
Problems
Javadoc
Declaration
Console
<terminated> BinarySearch [Java Application] C:\Users\Varshitha B S\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.7.v20230425-1502\jre\bin\javaw.exe (18 May 2023, 13:16:46 – 13:17:09)
Enter element to be searched:
4
Element found at index 1
Type here to search
34°C Mostly sunny
13:17
18/05/2023