EXPLORER

J InventoryManagementSystem.java   J ECommerceSearch.java ●

J ECommerceSearch.java > ...

```java
import java.util.Arrays;
public class ECommerceSearch {
    public static class Product {
        int productId;
        String productName;
        String category;

        public Product(int productId, String productName, String category) {
            this.productId = productId;
            this.productName = productName;
            this.category = category;
        }

        @Override
        public String toString() {
            return "[" + productId + ", " + productName + ", " + category + "]";
        }
    }
    public static Product linearSearch(Product[] products, String targetName) {
        for (Product p : products) {
            if (p.productName.equalsIgnoreCase(targetName)) {
                return p;
            }
        }
        return null;
```

OPEN EDITORS   1 unsaved
    J InventoryManagementSystem.j...
● J ECommerceSearch.java
COGNIZANT
    J CustomerOrderSorter.class
    J CustomerOrderSorter.java
    J CustomerOrderSorter$Order.class
    J ECommerceSearch.class
    J ECommerceSearch.java
    J ECommerceSearch$Product.class
    J Employee.class
    J EmployeeManagementSystem.class
    J EmployeeManagementSystem.java
    J FinancialForecasting.java
    J InventoryManagementSystem.java
    J LibraryManagementSystem.java
    J Product.class
    J Task.class
    J TaskList.class
    J TaskManagementSystem.class
    J TaskManagementSystem.java

> OUTLINE
> TIMELINE
> PROJECTS
> RUN CONFIGURATION
> JAVA PROJECTS

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   ⚙ Run: InventoryManagementSystem + ∨

Exiting the system. Thank you!
PS C:\cognizant> █

⊗ 0 ⚠ 0   Indexing completed.   Java: Ready   Ln 1, Col 25   Spaces: 4   UTF-8   CRLF   Java

⌕ Search

ENG
IN

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20-06-2025

```java
public class ECommerceSearch {
    public static Product linearSearch(Product[] products, String targetName) {
    }
    public static Product binarySearch(Product[] products, String targetName) {
        int low = 0, high = products.length - 1;

        while (low <= high) {
            int mid = low + (high - low) / 2;
            int compare = products[mid].productName.compareToIgnoreCase(targetName);

            if (compare == 0) {
                return products[mid];
            } else if (compare < 0) {
                low = mid + 1;
            } else {
                high = mid - 1;
            }
        }
        return null;
    }
    public static void printResult(Product result, String method) {
        if (result != null) {
            System.out.println(method + " found: " + result);
        } else {
            System.out.println(method + " did not find the product.");
```

```java
   2    public class ECommerceSearch {
  44        public static void printResult(Product result, String method) {
  49            }
  50        }
       Run main | Debug main | Run | Debug
  51    public static void main(String[] args) {
  52        Product[] products = {
  53            new Product(productId:101, productName:"Shoes", category:"Footwear"),
  54            new Product(productId:102, productName:"Shirt", category:"Clothing"),
  55            new Product(productId:103, productName:"Laptop", category:"Electronics"),
  56            new Product(productId:104, productName:"Book", category:"Stationery"),
  57            new Product(productId:105, productName:"Phone", category:"Electronics")
  58        };
  59
  60        // 🔍 Test Linear Search
  61        Product foundLinear = linearSearch(products, targetName:"Laptop");
  62        printResult(foundLinear, method:"Linear Search");
  63        Arrays.sort(products, (a, b) -> a.productName.compareToIgnoreCase(b.productName));
  64        Product foundBinary = binarySearch(products, targetName:"Laptop");
  65        printResult(foundBinary, method:"Binary Search");
  66    }
  67 }
  68
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   PORTS

```
 Exiting the system. Thank you!
PS C:\cognizant>
```

```java
public class ECommerceSearch {
    public static void main(String[] args) {
        new Product(productId:102, productName:"Shirt", category:"Clothing"),
        new Product(productId:103, productName:"Laptop", category:"Electronics"),
        new Product(productId:104, productName:"Book", category:"Stationery"),
        new Product(productId:105, productName:"Phone", category:"Electronics")
    };

    // 🔍 Test Linear Search
    Product foundLinear = linearSearch(products, targetName:"Laptop");
    printResult(foundLinear, method:"Linear Search");
    Arrays.sort(products, (a, b) -> a.productName.compareToIgnoreCase(b.productName));
    Product foundBinary = binarySearch(products, targetName:"Laptop");
    printResult(foundBinary, method:"Binary Search");
    }
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
PS C:\cognizant> & 'C:\Program Files\Java\jdk-24\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExcept
ionMessages' '-cp' 'C:\Users\sahan\AppData\Roaming\Code\User\workspaceStorage\5c120c78ee1edadaac7ff33613f965a8\r
edhat.java\jdt_ws\cognizant_43b6ceb\bin' 'ECommerceSearch'
Linear Search found: [103, Laptop, Electronics]
Binary Search found: [103, Laptop, Electronics]
PS C:\cognizant>
```