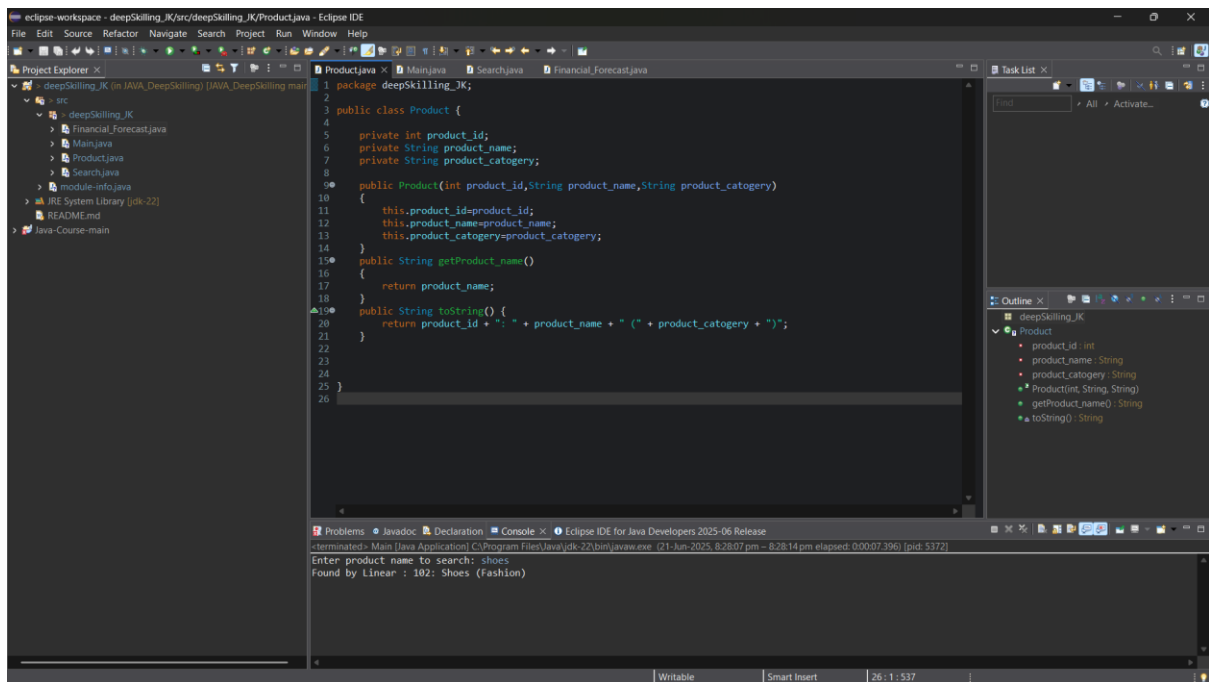


## Week - 1

# E-commerce Platform Search Function

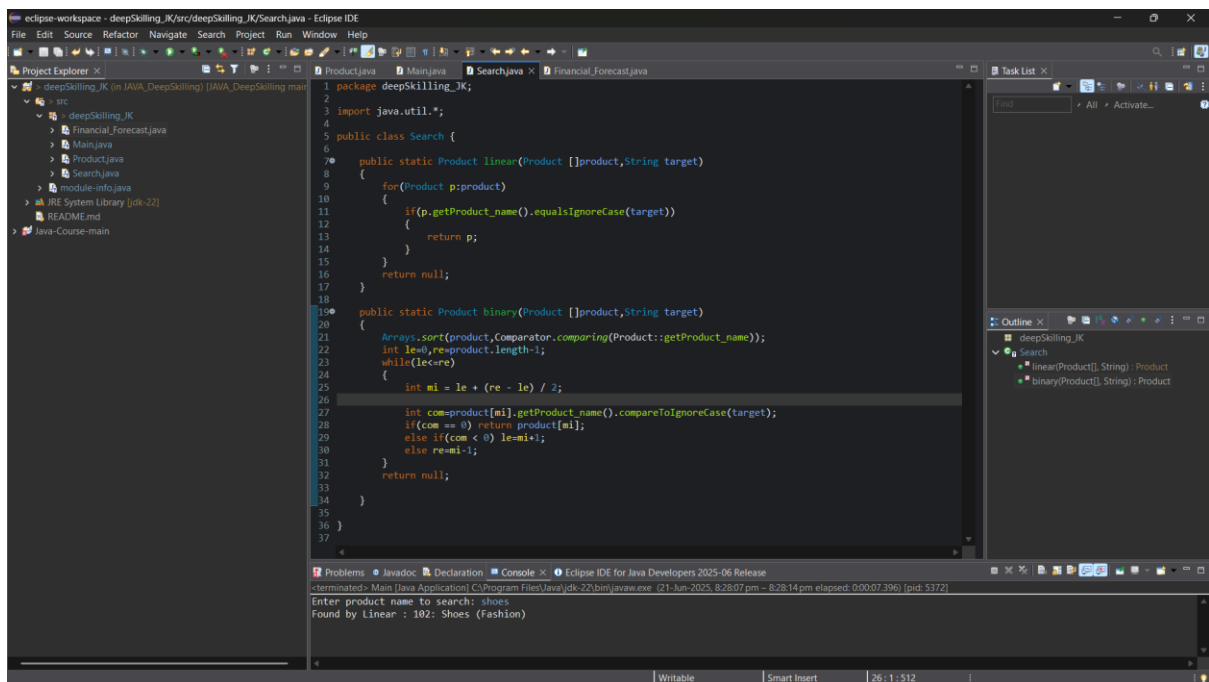
## Product.class



```
1 package deepSkill_JK;
2
3 public class Product {
4
5     private int product_id;
6     private String product_name;
7     private String product_category;
8
9     public Product(int product_id,String product_name,String product_category)
10    {
11        this.product_id=product_id;
12        this.product_name=product_name;
13        this.product_category=product_category;
14    }
15    public String getProduct_name()
16    {
17        return product_name;
18    }
19    public String toString() {
20        return product_id + " : " + product_name + " (" + product_category + ")";
21    }
22
23
24
25 }
26
```

Problems Javadoc Declaration Console Eclipse IDE for Java Developers 2025-06 Release  
-terminated> Main [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (21-Jun-2025, 8:28:07 pm - 8:28:14pm elapsed: 0:00:07.396) [pid: 5372]  
Enter product name to search: shoes  
Found by Linear : 102: Shoes (Fashion)

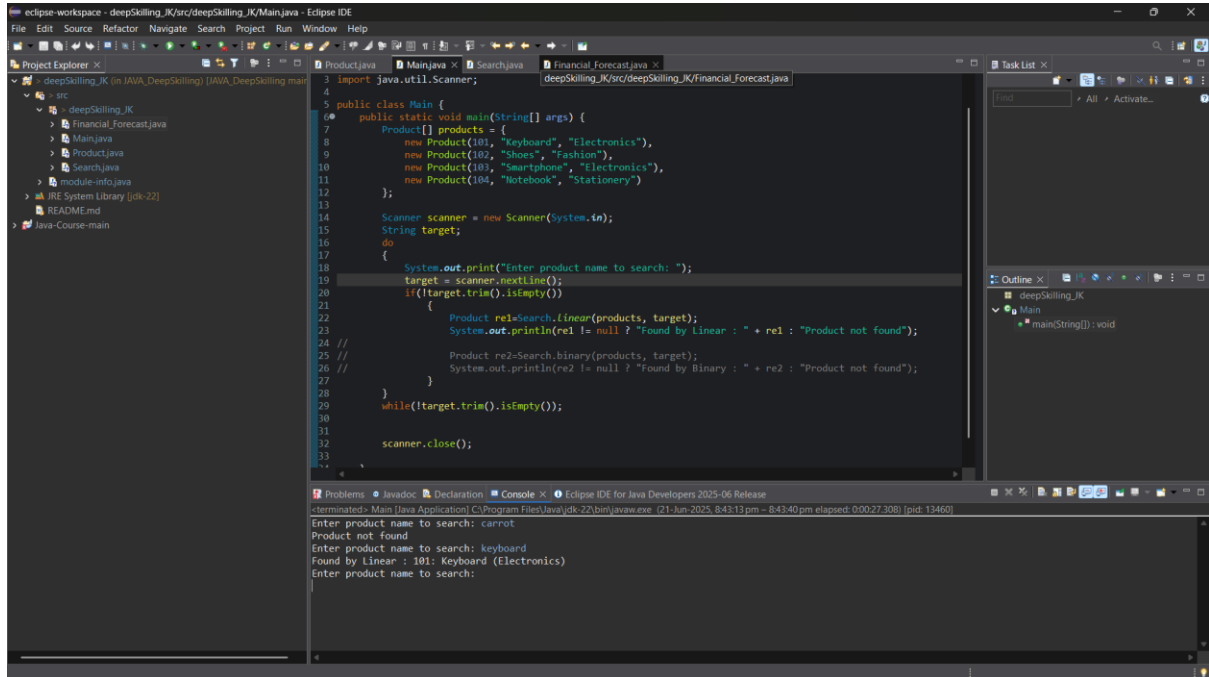
## Search.class



```
1 package deepSkill_JK;
2
3 import java.util.*;
4
5 public class Search {
6
7     public static Product linear(Product []product,String target)
8     {
9         for(Product p:product)
10        {
11            if(p.getProduct_name().equalsIgnoreCase(target))
12            {
13                return p;
14            }
15        }
16        return null;
17    }
18
19    public static Product binary(Product []product,String target)
20    {
21        Arrays.sort(product,Comparator.comparing(Product::getProduct_name));
22        int le=0,re=product.length-1;
23        while(le<re)
24        {
25            int mi = le + (re - le) / 2;
26
27            int com=product[mi].getProduct_name().compareToIgnoreCase(target);
28            if(com == 0) return product[mi];
29            else if(com < 0) le=mi+1;
30            else re=mi-1;
31        }
32        return null;
33    }
34
35
36 }
37
```

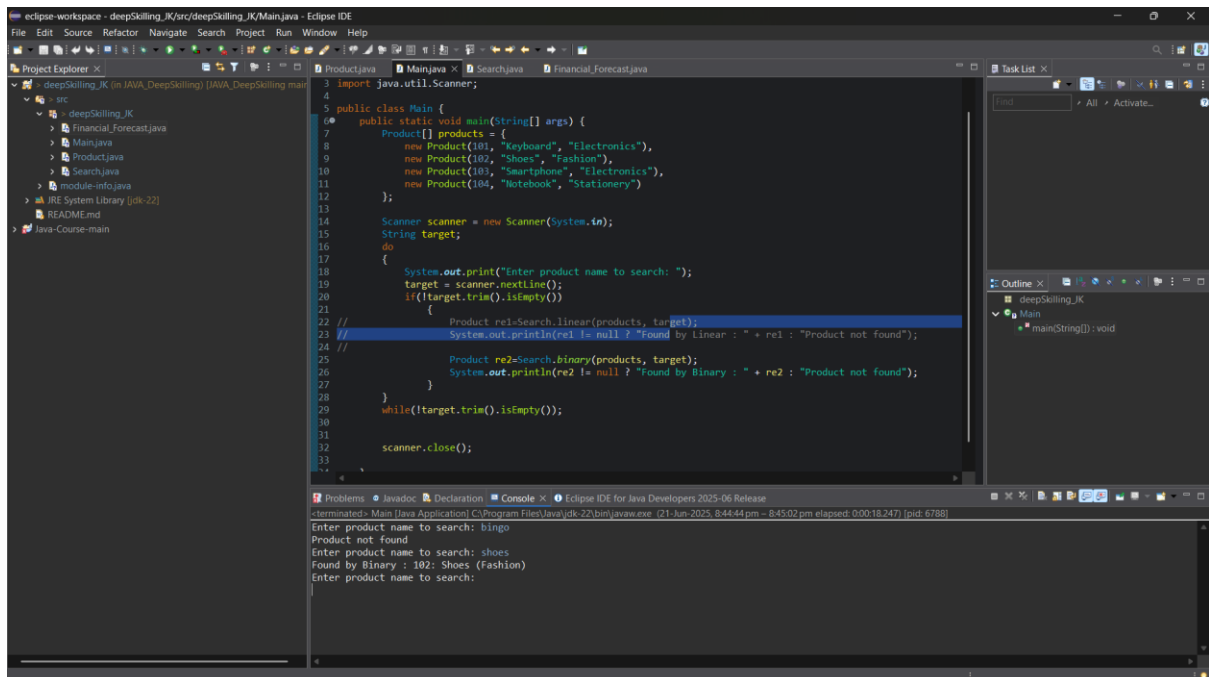
Problems Javadoc Declaration Console Eclipse IDE for Java Developers 2025-06 Release  
-terminated> Main [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (21-Jun-2025, 8:28:07 pm - 8:28:14pm elapsed: 0:00:07.396) [pid: 5372]  
Enter product name to search: shoes  
Found by Linear : 102: Shoes (Fashion)

## Main.java



```
1 import java.util.Scanner;
2
3 public class Main {
4     public static void main(String[] args) {
5         Product[] products = {
6             new Product(101, "Keyboard", "Electronics"),
7             new Product(102, "Shoes", "Fashion"),
8             new Product(103, "Smartphone", "Electronics"),
9             new Product(104, "Notebook", "Stationery")
10        };
11
12        Scanner scanner = new Scanner(System.in);
13        String target;
14        do {
15            System.out.print("Enter product name to search: ");
16            target = scanner.nextLine();
17            if(!target.trim().isEmpty())
18            {
19                Product re1=Search.linear(products, target);
20                System.out.println(re1 != null ? "Found by Linear : " + re1 : "Product not found");
21                //
22                Product re2=Search.binary(products, target);
23                System.out.println(re2 != null ? "Found by Binary : " + re2 : "Product not found");
24            }
25        } while(!target.trim().isEmpty());
26
27        scanner.close();
28    }
29 }
30
31
32
33
```

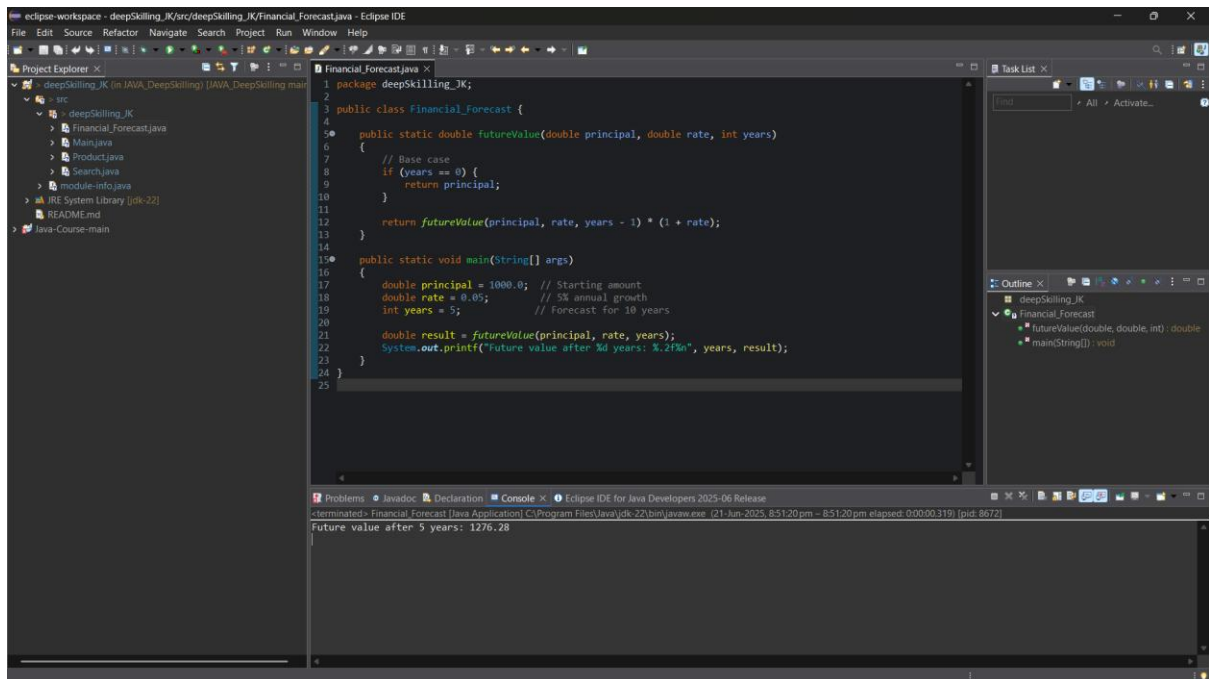
Enter product name to search: carrot  
Product not found  
Enter product name to search: keyboard  
Found by Linear : 101: Keyboard (Electronics)  
Enter product name to search:



```
1 import java.util.Scanner;
2
3 public class Main {
4     public static void main(String[] args) {
5         Product[] products = {
6             new Product(101, "Keyboard", "Electronics"),
7             new Product(102, "Shoes", "Fashion"),
8             new Product(103, "Smartphone", "Electronics"),
9             new Product(104, "Notebook", "Stationery")
10        };
11
12        Scanner scanner = new Scanner(System.in);
13        String target;
14        do {
15            System.out.print("Enter product name to search: ");
16            target = scanner.nextLine();
17            if(!target.trim().isEmpty())
18            {
19                Product re1=Search.linear(products, target);
20                System.out.println(re1 != null ? "Found by Linear : " + re1 : "Product not found");
21                //
22                Product re2=Search.binary(products, target);
23                System.out.println(re2 != null ? "Found by Binary : " + re2 : "Product not found");
24            }
25        } while(!target.trim().isEmpty());
26
27        scanner.close();
28    }
29 }
30
31
32
33
```

Enter product name to search: bingo  
Product not found  
Enter product name to search: shoes  
Found by Binary : 102: Shoes (Fashion)  
Enter product name to search:

# Financial Forecasting



```
1 package deepSkill_JK;
2
3 public class Financial_Forecast {
4
5     public static double futureValue(double principal, double rate, int years)
6     {
7         // Base case
8         if (years == 0) {
9             return principal;
10        }
11
12        return futureValue(principal, rate, years - 1) * (1 + rate);
13    }
14
15    public static void main(String[] args)
16    {
17        double principal = 1000.0; // Starting amount
18        double rate = 0.05; // 5% annual growth
19        int years = 5; // Forecast for 10 years
20
21        double result = futureValue(principal, rate, years);
22        System.out.printf("Future value after %d years: %.2f\n", years, result);
23    }
24 }
25
```

terminated: Financial\_Forecast [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (21-Jun-2025, 8:51:20pm - 8:51:20pm elapsed: 0:00:00.319) (pid: 8672)

Future value after 5 years: 1276.28