E-commerce platform search Function:

Code:

```java
interface SearchStrategy {

void search(String query);

}

class NameSearch implements SearchStrategy {

public void search(String query) {

System.out.println("Searching for product by name: " + query);

}

}

class CategorySearch implements SearchStrategy {

public void search(String query) {

System.out.println("Searching for product by category: " + query);

}

}

class PriceRangeSearch implements SearchStrategy {

public void search(String query) {

System.out.println("Searching for product in price range: " + query);

}

}

class SearchFactory {

public SearchStrategy getSearchStrategy(String type) {

if (type == null) return null;

if (type.equalsIgnoreCase("NAME")) {

return new NameSearch();

} else if (type.equalsIgnoreCase("CATEGORY")) {

return new CategorySearch();

} else if (type.equalsIgnoreCase("PRICE")) {

return new PriceRangeSearch();

}
```

```java
        return null;

    }

}public class Main {

    public static void main(String[] args) {

        SearchFactory factory = new SearchFactory();

        SearchStrategy search1 = factory.getSearchStrategy("NAME");

        search1.search("Laptop");

        SearchStrategy search2 = factory.getSearchStrategy("CATEGORY");

        search2.search("Electronics");

        SearchStrategy search3 = factory.getSearchStrategy("PRICE");

        search3.search("500-1000");

    }

}
```

Output:

```
Microsoft Windows [Version 10.0.22631.5335]
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C:\Users\amuly\OneDrive\Desktop\factorymethodpattern>javac *.java

C:\Users\amuly\OneDrive\Desktop\factorymethodpattern>java Main
Searching for product by name: Laptop
Searching for product by category: Electronics
Searching for product in price range: 500-1000

C:\Users\amuly\OneDrive\Desktop\factorymethodpattern>
```