E-commerce Platform Search Function:

Code:

```
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();
    }
    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: