**Exercise 2: E-commerce Platform Search Function**

interface SearchStrategy {

    void search(String query);

}

class NameSearch implements SearchStrategy {

    public void search(String query) {

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

    }

}

class CategorySearch implements SearchStrategy {

    public void search(String query) {

        System.out.println("Searching products in category: " + query);

    }

}

class PriceSearch implements SearchStrategy {

    public void search(String query) {

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

    }

}

class SearchFactory {

    public SearchStrategy getSearchStrategy(String type) {

        switch (type.toLowerCase()) {

            case "name":

                return new NameSearch();

            case "category":

                return new CategorySearch();

            case "price":

                return new PriceSearch();

            default:

                throw new IllegalArgumentException("Invalid search type: " + type);

        }

    }

}

public class ECommerceSearch {

    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("1000-2000");

    }

}

**OUTPUT:**

