Exercise 2: E-commerce Platform Search Function

Program :

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");

}

}