## **Exercise Description:**

You are tasked with developing a Java application that allows users to input details about multiple products and determine which product has the best score-to-price ratio.

### **Details:**

# 1. Product Class (Product.java):

- This class represents a product with attributes:
  - name: The name of the product (String).
  - price: The price of the product (double).
  - score: The score of the product (int).

#### Constructor:

• The default constructor initializes the product with default values (empty name, price of 1, and score of 0).

#### Methods:

- read(): This method reads product details from the user input using a Scanner and sets the name, price, and score of the product.
- printData(): This method prints the product details (name, price, and score).
- is\_better\_than(Product other): This method compares the score-to-price ratio of the current product with another product and returns true if the current product has a better ratio, otherwise returns false.

### 2. Main Class (Main.java):

• The main method interacts with the user to continuously input details for multiple products.

#### Process:

- The user is prompted to input multiple products.
- Each product's details (name, price, and score) are entered, and the program compares the product with the best product found so far using the is\_better\_than() method.
- The user can choose to enter more products or stop.
- After all products are entered, the program prints the details of the product with the best score-to-price ratio.

### Task:

- 1. Implement the Product class with attributes for name, price, and score, along with methods to read input, print data, and compare products based on their score-to-price ratio.
- 2. Implement the Main class to handle multiple products and determine the best product using the loop and comparison logic.
- 3. Allow the user to enter multiple products and stop when they choose to, then display the best product at the end.

## **Bonus:**

- Modify the comparison logic to account for cases where two products have the same score-to-price ratio.
- Add validation to ensure that no negative or zero values are entered for price and score.

This exercise focuses on basic object-oriented programming concepts such as classes, methods, user input handling, and comparison logic in Java.