SUPERSET ID-6413402

**Exercise 3: Sorting Customer Orders by Total Price**

**CODE:**

class Order {

int orderId;

String customerName;

double totalPrice;

public Order(int orderId, String customerName, double totalPrice) {

this.orderId = orderId;

this.customerName = customerName;

this.totalPrice = totalPrice;

}

public String toString() {

return orderId + " | " + customerName + " | ₹" + totalPrice;

}

}

public class OrderSorting {

public static void bubbleSort(Order[] orders) {

int n = orders.length;

for (int i = 0; i < n - 1; i++) {

for (int j = 0; j < n - i - 1; j++) {

if (orders[j].totalPrice > orders[j + 1].totalPrice) {

Order temp = orders[j];

orders[j] = orders[j + 1];

orders[j + 1] = temp;

}

}

}

}

public static void quickSort(Order[] orders, int low, int high) {

if (low < high) {

int pi = partition(orders, low, high);

quickSort(orders, low, pi - 1);

quickSort(orders, pi + 1, high);

}

}

private static int partition(Order[] orders, int low, int high) {

double pivot = orders[high].totalPrice;

int i = (low - 1);

for (int j = low; j < high; j++) {

if (orders[j].totalPrice < pivot) {

i++;

Order temp = orders[i];

orders[i] = orders[j];

orders[j] = temp;

}

}

Order temp = orders[i + 1];

orders[i + 1] = orders[high];

orders[high] = temp;

return i + 1;

}

public static void printOrders(Order[] orders, String title) {

System.out.println("\n" + title);

for (Order order : orders) {

System.out.println(order);

}

}

public static void main(String[] args) {

Order[] orders = {

new Order(301, "Ravi", 8000.50),

new Order(302, "Meena", 1200.00),

new Order(303, "John", 15000.75),

new Order(304, "Priya", 5000.00)

};

// Bubble Sort

Order[] bubbleSorted = orders.clone();

bubbleSort(bubbleSorted);

printOrders(bubbleSorted, "Sorted by Bubble Sort:");

// Quick Sort

Order[] quickSorted = orders.clone();

quickSort(quickSorted, 0, quickSorted.length - 1);

printOrders(quickSorted, "Sorted by Quick Sort:");

}

}

Output:

Sorted by Bubble Sort:

302 | Meena | ₹1200.0

304 | Priya | ₹5000.0

301 | Ravi | ₹8000.5

303 | John | ₹15000.75

Sorted by Quick Sort:

302 | Meena | ₹1200.0

304 | Priya | ₹5000.0

301 | Ravi | ₹8000.5

303 | John | ₹15000.75

