Q1.

a. Think about what could be going wrong with our calculation. Think about a better way to evaluate this data.

Ans:

- From the given dataset we can see that there is a shopID 42 with 17 orders whose total_items are 2000, which is very high than any other order. Which indicated such high orders could be resellers orders and remaining are normal customer orders.
- There is another shopID 78 with 46 orders whose order_value is very high than remaining shops and order_value
- These indicates why the AOV is high even though its relatively affordable item
- The metrics used to calculate AOV of $3145.13 would be misleading as resellers, luxury and normal shops orders are mixed, which would scew the distribution of the order_amount and hence affect the average amount value.
- We should calculate reseller, luxury and normal shops AOV separately as three different category

b. What metric would you report for this dataset?

Ans:

- We should calculate reseller, luxury and normal shops AOV separately, which would not inflate the AOV for normal customers sales record
- This would give business people better understanding of how are the sales for normal and reseller and luxury customers and ultimately make action plan for respective group of customers

c. What is its value?

Ans:

- Reseller Shops Customers AOV: $ **704000**
- Luxury Shops Customers AOV: $ **49213**
- Affordable Shops Customers AOV: $ **302.58**

Q2.

a. How many orders were shipped by Speedy Express in total?

Ans:

```
select count(orderID) as Total_Orders
from orders
where shipperId = (select shipperId
                   from Shippers
                   where shippername='Speedy Express'
                   );
```

Output:

Total_Orders
54

b. What is the last name of the employee with the most orders?

Ans:

```
select LastName, counts
from employees e, (select employeeId, count(orderID) as counts from orders group by
employeeId order by count(orderID) desc limit 1) p
where e.employeeId = p.employeeId
;
```

Ouput:

LastName	counts
Peacock	40

c. What product was ordered the most by customers in Germany?
Ans:

```
select productName
from products
where ProductID = (select ProductID
                   from orderdetails
                   where orderID in (select orderID
                                     from orders
                                     where CustomerID in (select  customerID
                                                          from customers
                                                          where Country= 'Germany')
                                    )
                  group by orderID, ProductID
                  order by Quantity desc limit 1
                  )
;
```

Output:

ProductName
Steeleye Stout