OLAP Queries:

1. **Query to check the total number of products and their product ID in each customers cart(aggregated by cart ID):**

    select cart_id,product_id,sum(amount) from cart group by cart_id,product_id with rollup

2. **Query to See the orders placed on each day of each month (aggregated by month):**

    SELECT MONTH(o.Order_Date) as 'month', DAY(o.Order_Date) as 'day', SUM(o.Amount) as 'total order value' FROM orders as o GROUP BY MONTH(o.Order_Date), DAY(o.Order_Date) WITH ROLLUP;

3. **Query to See the number of accepted/rejected payments on each day of each month (aggregated by month):**

    SELECT month, day, SUM(accepted_payments) AS accepted_payments, SUM(rejected_payments) AS rejected_payments FROM (SELECT MONTH(p.Payment_Date) AS month, DAY(p.Payment_Date) AS day, COUNT(*) AS accepted_payments, 0 AS rejected_payments FROM payment AS p WHERE p.Status='Accepted' GROUP BY MONTH(p.Payment_Date), DAY(p.Payment_Date) UNION ALL SELECT MONTH(p.Payment_Date) AS month, DAY(p.Payment_Date) AS day, 0 AS accepted_payments, COUNT(*) AS rejected_payments FROM payment AS p WHERE p.Status='Rejected' GROUP BY MONTH(p.Payment_Date), DAY(p.Payment_Date)) AS subquery GROUP BY month, day WITH ROLLUP;

4. **See the number of orders placed by customers and the total amount spend over all the orders:**

    select Customer_ID, Order_ID,SUM(Amount) from orders
    group by Customer_ID, Order_ID with rollup

TRIGGERS:

1. **Before Update Trigger to stop the quantity of a product in the inventory from going into negative values:**

   ```
   DROP TRIGGER IF EXISTS `onlineretail`.`inventory_BEFORE_UPDATE`;

   DELIMITER $$
   USE `onlineretail`$$
   CREATE DEFINER=`root`@`localhost` TRIGGER
   `inventory_BEFORE_UPDATE` BEFORE UPDATE ON `inventory` FOR EACH
   ROW BEGIN
   if new.Quantity<0 THEN SET new.Quantity = 0;
   END IF;
   END$$
   DELIMITER ;
   ```

2. **Before update trigger that caps the maximum order limit of a product per customer to 10:**

   ```
   DROP TRIGGER IF EXISTS `onlineretail`.`cart_BEFORE_UPDATE`;

   DELIMITER $$
   USE `onlineretail`$$
   CREATE DEFINER=`root`@`localhost` TRIGGER `cart_BEFORE_UPDATE`
   BEFORE UPDATE ON `cart` FOR EACH ROW BEGIN
   IF new.Amount>10 THEN SET new.Amount=10;
   END IF;
   END$$
   DELIMITER ;
   ```