PSO Solutions (Week 4)

1. Get each employee Id with the total number of orders processed by that employee, sort the result set by the number of orders processed in a descending order.

   ```
   select EmployeeId, count(OrderId) as NumOfOrders
   from Orders
   group by EmployeeId
   order by NumOfOrders desc;
   ```

2. Using the same semantics of Query 1, display the top 5 records (ranked by the descending order of the total number of orders, i.e. get the top 5 active employees).

   ```
   select EmployeeId, NumOfOrders from (
       select EmployeeId, count(OrderId) as NumOfOrders
       from Orders
       group by EmployeeId
       order by NumOfOrders desc
   ) where rownum <= 5;
   ```

   ```
   select EmployeeId, count(OrderId) as NumOfOrders
   from Orders
   group by EmployeeId
   order by NumOfOrders desc
   fetch first 5 rows only;
   ```

3. Get the id and the total amount of the most expensive order in the database (consider the discount attribute when computing the total order amount).

   ```
   select OrderId, sum((UnitPrice * Quantity * (1 - Discount))) as OrderTotal
   from Order_Details
   group by OrderId
   order by OrderTotal desc
   fetch first row only;
   ```

4. Get the names of the ten best selling products (based on the accumulated quantities sold). Display all the ties (i.e. if the 10th best selling product has the same rank as another product, display the two products).

    - Wrong way to do it (does not consider ties):

```
select ProductName from (
        select p.ProductName, sum(o.Quantity) as Sales
        from Order_Details o, Products p
        where o.ProductId = p.ProductId
        group by p.ProductName
        order by Sales desc
) where rownum < 11;
```

    - Right way to do it (considers ties):

```
select ProductName from (
        select p.ProductName, sum(o. Quantity) as Sales,
                rank() over (order by Sum(o. Quantity) Desc) as Rnk
        from Order_Details o, Products p
        where o.ProductId = p.ProductId
        group by p.ProductName
        order by Sales desc
) where Rnk <= 10;
```