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| Week #5 Assignment  10 Percent Assignment | Use Sub-queries, CTEs, and Scalar Functions to get the desired results.  Maziar Shajari  Database Management |

* **You have to use everything you have already learned, to complete your assignment. (comments, Query format, …)**
* **Do not forget to have a title paragraph for your report (Your name and your group members’ name, Assignment weeks, Date, and student number).**
* **Do not forget to add a brief comment for each query. Submit the report file with a proper format (have the queries and the results properly separated from each other).**
* **First test all your results by sending your results to text and then send them to file.**
* **Only submit your report file and you do not need to submit your script file.**
* **Rename your report file to “Week5\_assignment.txt” then submit it.**
* **Do not submit .zip files. Submit only text files.**

We are going to work with **Adventurework** database. Therefore, open **Adventurework** database as your default database. Do not forget to use the SQL standards.

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| # | Question | mark | Table |
| 1 | We need to know the number of products we have in the PurchaseOrderDetail table. (**count the number** of **un-repeated** productid) | 1 | Purchasing.PurchaseOrderDetail  265 |
| 2 | Write a query to show the productID of the most profitable product(ignore production costs) after price and order quantity are considered (maximum amount of money gained for each product id)   * Use SUM and group by to get the best result. | 1 | Purchasing.PurchaseOrderDetail  19 |
| 3 | Write a query to show the names of the top 5 most profitable products, as in question 2. Remember to take both price and quantity sold into account.   * **You must join two tables**.   **Answer you need to get:**  **HL Crankarm 3358797.75**  **ML Mountain Pedal 2709040.95**  **ML Road Pedal 2390330.25**  **Front Brakes 2277948.75**  **Rear Brakes 2277948.75** | 1 | Purchasing.PurchaseOrderDetail  Production.Product |
| 4 | Write a query to show number of products with the stock quantity more than the average stock quantity.   * **You have to use sub query** | 1 | Purchasing.PurchaseOrderDetail  3823 |
| 5 | We need to know the product id and the modified date of the products with special offer **“Half-Price Pedal Sale”.** | 1 | Sales.SpecialOfferProduct  Sales.SpecialOffer |
| 6 | Concentrate on Purchasing.PurchaseOrderDetail and Production.Product Tables.  We need a query to show all the product with ‘seat Assembly’ in their names which have not been purchased yet. (The ones without any values in their PurchaseOrderDetailID.   * Use left join. * Sort them by product ID. | 1 | Production.Product  Purchasing.PurchaseOrderDetail |
| 7 | Using CTE, show the total number of sales orders per year for each sales representative.   You can use the select query below to define your CTE.  SELECT SalesPersonID, SalesOrderID, YEAR(OrderDate) AS SalesYear  FROM Sales.SalesOrderHeader  WHERE SalesPersonID IS NOT NULL | 1 | Sales.SalesOrderHeader and CTE |
| 8 | We need to get five products with highest total StockedQty.  • Use group by and scalar function.  • Show only the product ID and the total number of stock quantity.  Sort them by the total number of stock quantity highest to lowest. | 1 | Purchasing.PurchaseOrderDetail |
| 9 | /\*In Adventurework2017 database we have several same columns in different tables.  One of these columns is StandardCost.  We can find it in Production.ProductCostHistory and Production.Product tables.  A) Which one is newer (more recent)? Answer it by using a Join query to show modified dates and  standard costs in both tables. (Show only the non-similar modified dates).  You must compare the cost and dates\*/ | 1 | Production.ProductCostHistory  Production.Product |
|  | Report format | 1 |  |
|  | SUM | 10 |  |