

## Assignments – list 1

Familiarize yourself with the Adventure Works database – the assignment lists will be based on that database and your tasks will require understanding of how it works (I may ask questions about it!):

### AdventureWorks Sample Databases:

- [https://technet.microsoft.com/en-us/library/ms124501\(v=sql.100\).aspx](https://technet.microsoft.com/en-us/library/ms124501(v=sql.100).aspx)
- <https://msftdbprodsamples.codeplex.com/releases/view/125550>

### AdventureWorks basic information:

- Business scenarios: <http://technet.microsoft.com/pl-pl/library/ms124825>
- Schemas: [http://technet.microsoft.com/pl-pl/library/ms124894\(v=sql.100\).aspx](http://technet.microsoft.com/pl-pl/library/ms124894(v=sql.100).aspx)
- Data Dictionary: [https://technet.microsoft.com/en-US/library/ms124438\(v=SQL.100\).aspx](https://technet.microsoft.com/en-US/library/ms124438(v=SQL.100).aspx) ; <http://www.sqldatadictionary.com/AdventureWorks2014/database.html>
- Technical description: [http://elsasoft.com/samples/sqlserver\\_adventureworks/sqlserver.spring.katmai.adventureworks/default.htm](http://elsasoft.com/samples/sqlserver_adventureworks/sqlserver.spring.katmai.adventureworks/default.htm) or <https://dataedo.com/download/AdventureWorks.pdf>

### With this knowledge, write simple SQL queries:

1. Display the names of the products for which the individual elements are defined, example:
  1. Color
  2. Color or Weight
  3. Weight and Size
2. Display the name of the lightest and the heaviest product containing the name "Road". (If possible: in a single query).
3. Display the products whose price is higher than the average price.
4. Display the average price of the product, depending on the category (ProductCategory).  
Perform the correct join.
5. Display the names of all customers with the total sum made by them purchases (use SalesOrderHeader.SubTotal).
  - a. The list has to be sorted (descending) by the total amount of purchases.
6. Display the names of all the vendors together with the total sum made by the sell them (use SalesOrderHeader.SubTotal).
  - a. The list has to be sorted (descending) by the total sales volume.
7. Display the categories, sub-categories, and names of retailers and the average discount on products (relative to the category) given by the seller.
  - a. Display only the lines in which the average discount is greater than zero.
8. Create a simple view that contains information regarding transactions (Value and Quantity), time (Month and Year) and product (Name, Category and Subcategory).