

## Applicative Exercise 4

### ▪ Machine Learning → Decision Tree Algorithm applied on products identification

You have an automatised system (software) with the records of products as following:

Product	Product Manufacturer	Quality	Unit price	Origin
A	Sanofi	AAA	>30€	Italy
B	Pfizer	ABA	<30€	France
C	AALab	ABB	<30€	Germany
d	Mbio	AAB	>30€	Switzerland

The system knows that the products with the best qualities AAA and AAB have the unit price >30€.

Suppose the system can only ask the questions YES/NO to these Data with the following questions:

- **Question P** : Is the unit price <30€
- **Question F**: Is the origin from France?
- **Question Q**: Is it the best quality AAA?

You have to know that the system try always to optimize the path (shorter path) to identify each product.

**Develop the decision trees of the sequantial questions with the average nbr of questions, then select the best sequence/path.**