Which topic did you choose to apply the data science methodology to? **(2 marks)**

I chose the **Credit Cards**theme.

Next, you will play the role of the client and the data scientist.

Using the topic that you selected, complete the Business Understanding stage by coming up with a problem that you would like to solve and phrasing it in the form of a question that you will use data to answer. **(3 marks)**

You are required to:

1. Describe the problem, related to the topic you selected.
2. Phrase the problem as a question to be answered using data.

For example, using the food recipes use case discussed in the labs, the question that we defined was, "Can we automatically determine the cuisine of a given dish based on its ingredients?".

1. Currently, the use of a credit card in payments of sports products through the Internet is reduced by 6%. (An increase is seen in new payment platforms that replace the use of the credit card)  
2. In what type of sports product does the credit card not be used when buying online? Understand the combination of events that led to the predicted result

Briefly explain how you would complete each of the following stages for the problem that you described in the Business Understanding stage, so that you are ultimately able to answer the question that you came up with. **(5 marks)**:

1. Analytic Approach
2. Data Requirements
3. Data Collection
4. Data Understanding and Preparation
5. Modeling and Evaluation

You can always refer to the labs as a reference with describing how you would complete each stage for your problem.

Analytic Approach: A decision tree classification model will be used to identify the combination of conditions that led to the outcome of each buyer. Data Requirements: In the first case, an "x" universe of buyers of sports products will be selected to collect purchasing behavior, frequency, type of product, store. Data Collection: The visualization of data will be applied to evaluate the content, quality and initial information about the data, for this the source will be known (if it is primary, secondary or tertiary). With this we know that we are interested in the store data, type of product and purchase behavior. Data Understanding and Preparation: In this stage the necessary data is already known to be able to answer the question posed by means of descriptive statistics to prepare the data later to handle them in a better way (sex - type of product - quantity - store) Modeling and Evaluation: In this stage, the methodology used allows to make a good descriptive model to know its behavior and preferences that lead it to buy with other means of payment that is not a credit card. In the evaluation, we look for feedback with the commercial and IT area of the company to see how it has been changing this% credit card purchase to know that in most are men who decide to buy sports shoes, improved by delivering benefits and discounts when paying with credit card, in addition to improvements in the websites to facilitate and encourage the use of the credit card. Modifications will continue to be made to the model to get to know in greater depth the actions of these buyers.