



# **POLITECNICO**

## **MILANO 1863**

### Data Intelligence Applications Homework

D'Amato Francesco,  
Frantuma Elia - 10567359 - 945729,  
Fucci Tiziano - 10524029 - 946638

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# Chapter 1

## Introduction

### 1.1 Scenario

Consider the scenario in which advertisement is used to attract users on an ecommerce website and the users, after the purchase of the first unit of a consumable item, will buy additional units of the same item in future. The goal is to find the best joint bidding and pricing strategy taking into account future purchases.

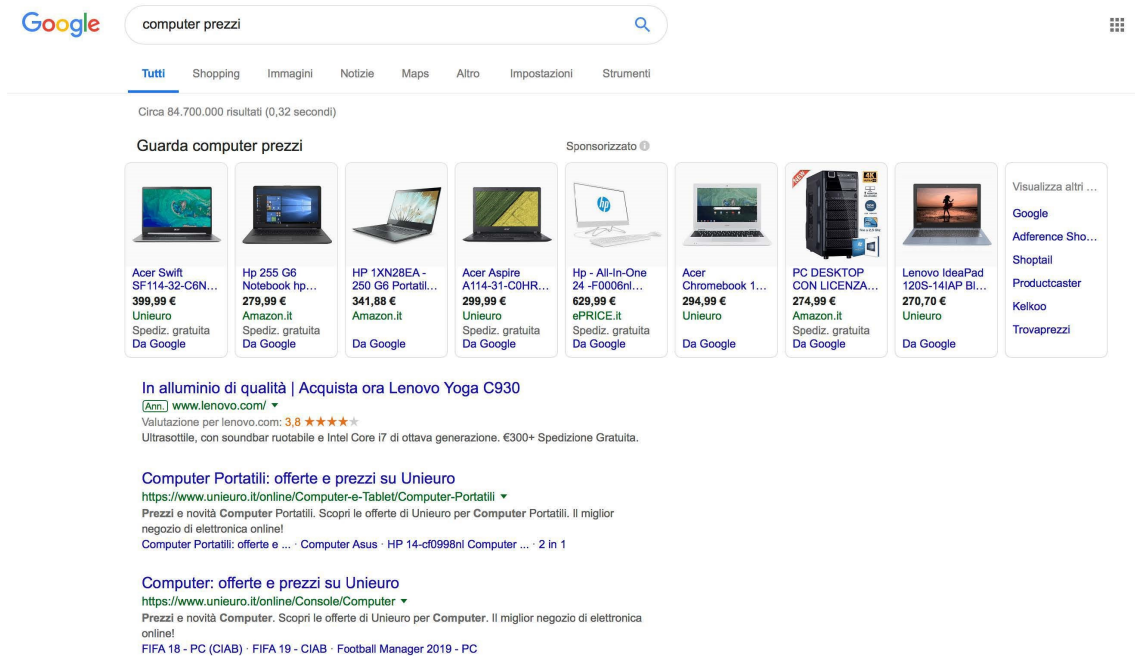


Figure 1.1: Advertising example

## 1.2 The product

The product we have chosen to simulate this advertising scenario is an energy drink. As we will say later, the first unit of product comes with a "dash button", to encourage the customer to buy it again and simulate the re-buy process.



Figure 1.2: The sold product

# Chapter 2

## Environment

In this section we give a precise definition of the customer classes and their features, cost functions and distribution probabilities on which the model is based.

### 2.1 Customer classes

In the environment model we have three customer classes: C1, C2 and C3.

#### 2.1.1 Class 1: the sportsman

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#### 2.1.2 Class 2: the programmer

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### **2.1.3 Class 3: the retired man**

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# Chapter 3

## Tasks

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# Chapter 4

## References

### 4.1 Links

- GitHub repository of the project: <https://github.com/tizianofucci/DIA2021AdvertisingAndPrincing>