# ΕΘΝΙΚΟ ΜΕΤΣΟΒΙΟ ΠΟΛΥΤΕΧΝΕΙΟ

ΣΧΟΛΗ ΗΛΕΚΤΡΟΛΟΓΩΝ ΜΗΧΑΝΙΚΩΝ ΚΑΙ ΜΗΧΑΝΙΚΩΝ ΥΠΟΛΟΓΙΣΤΩΝ
ΤΟΜΕΑΣ ΤΕΧΝΟΛΟΓΙΑΣ ΠΛΗΡΟΦΟΡΙΚΗΣ ΚΑΙ ΥΠΟΛΟΓΙΣΤΩΝ

## Εξόρυξη Γνώσης από Δεδομένα

Ακ. έτος 2022-2023
ΕΔΕΜ
Διδάσκοντες: Δ. Τσουμάκος, Β. Καντερέ

## ΣΕΙΡΑ ΑΣΚΗΣΕΩΝ 1

Η σειρά άσκησεων πρέπει να παραδοθεί από κάθε φοιτητή ατομικά.

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|---|---|
| ΑΝΑΚΟΙΝΩΣΗ | 26.11.2022 |
| ΠΡΟΘΕΣΜΙΑ ΠΑΡΑΔΟΣΗΣ | 18.12.2022 |

## ASSIGNMENT 1

The assignment should be submitted by each student individually.

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| ANNOUNCEMENT | 26.11.2022 |
| SUBMISSION DEADLINE | 18.12.2022 |

### Exercise 1 (15%)

Assume the following scenario:

There are Drinkers that like Beers. For the Drinkers we want to store information about their ID, their name, their address and their phone numbers. For the Beers we want to store information about their ID and their name. Each beer is made by one Brewery. For the brewery we need to store information about its ID, its name and the country it belongs to.

Design the respective relational database schema for the above scenario.

## Exercise 2 (15%)

Write the SQL DDL statements that implement the relational database schema you have designed for Exercise 1.

## Exercise 3 (70%)

Write the following queries on the relational database schema that you have designed and for which you have given the DDL statements, in Exercises 1 and 2.

**Query 1 (5%)**

Find which beers are made by Kaiser.

**Query 2 (10%)**

Find the brewers whose beers John likes. (Show each brewer only once in the result).

**Query 3 (10%)**

Find how many different beers there are.

**Query 4 (15%)**

Find pairs of beers by the same brewery (but no pairs like (a,b) and (b,a), and no (a,a)).

**Query 5 (15%)**

Find which brewer makes the most beers.

**Query 6 (15%)**

Find beers that are the only one their brewer makes.