# Lab: Data Operations in Django with Queries

This document defines the problems for the in-class lab for the [Python ORM course @ Software University](https://softuni.bg/trainings/4253/python-orm-october-2023).

Submit your solutions in the SoftUni [Judge system](https://judge.softuni.org/Contests/4323/Data-Operations-in-Django-with-Queries-Lab).

For this lab, you are given an **ORM project skeleton** (you can download it from [here](https://softuni.bg/downloads/svn/python-db/trunk/Sep-2023/Python-ORM/04-Data-Operations-in-Django-with-Queries/04-lab-orm-skeleton.zip)) with **one model** called **"Student"**. It consists of the fields: **"student\_id"**, **"first\_name"**, **"last\_name"**, **"birth\_date"**, and **"email"**.

* Make sure your **model imports** are **following** the **Django** **setup** part in the **caller.py** file!

A screen shot of a computer

Description automatically generated

## Add Students

Create a function called **"add\_students"** that adds the given records to the students' database table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **student\_id** | **first\_name** | **last\_name** | **birth\_date** | **email** |
| FC5204 | John | Doe | 15/05/1995 | john.doe@university.com |
| FE0054 | Jane | Smith | *null* | jane.smith@university.com |
| FH2014 | Alice | Johnson | 10/02/1998 | alice.johnson@university.com |
| FH2015 | Bob | Wilson | 25/11/1996 | bob.wilson@university.com |

**Note: Practice using both methods of adding records to the database.**

### Examples

|  |
| --- |
| **Test Code** |
| add\_students()  print(Student.objects.all()) |
| **Output** |
| <QuerySet [<Student: John Doe>, <Student: Jane Smith>, <Student: Alice Johnson>, <Student: Bob Wilson>]> |

## Get Students Info

Create a function called **"get\_students\_info"** that returns **all students's records** from the database in the format:

**"Student №{student\_id}: {first\_name} {last\_name}; Email: {email}**

**...**

**Student №{student\_id}: {first\_name} {last\_name}; Email: {email}"**

### Examples

|  |
| --- |
| **Test Code** |
| print(get\_students\_info()) |
| **Output** |
| Student №FC5204: John Doe; Email: john.doe@university.com  Student №FE0054: Jane Smith; Email: jane.smith@university.com  Student №FH2014: Alice Johnson; Email: alice.johnson@university.com  Student №FH2015: Bob Wilson; Email: bob.wilson@university.com |

## Update Students' Emails

Create a function called **"update\_students\_emails"** that updates **all students' emails.** The current email domain is **"university.com"**. Your task is to change it to **"uni-students.com"**.

### Examples

|  |
| --- |
| **Test Code** |
| update\_students\_emails()  for student in Student.objects.all():  print(student.email) |
| **Output** |
| john.doe@uni-students.com  jane.smith@uni-students.com  alice.johnson@uni-students.com  bob.wilson@uni-students.com |

## Truncate Students

Create a function called **"truncate\_students"** that **deletes all students' records** from the database table.

### Examples

|  |
| --- |
| **Test Code** |
| truncate\_students()  print(Student.objects.all())  print(f"Number of students: {Student.objects.count()}") |
| **Output** |
| <QuerySet []>  Number of students: 0 |