Sure 👍 Here’s the full **English explanation of your Informatics Lab 3 (Regular Expressions)** according to your **ISU number = 473329**

**🧩 Informatics Lab Work №3 — “Regular Expressions”**

You need to complete **three Python programs** based on your ISU number:

* Informatics\_Lab3\_Task1.py (mandatory, 35 pts)
* Informatics\_Lab3\_Task2.py (mandatory, 45 pts)
* Informatics\_Lab3\_Task3.py (optional, +20 pts bonus)

Each file must begin with:

# Author = Your Name

# Group = P31XX

# Date = 05.10.2025

Then upload them to your GitLab repository:

👉 https://gitlab.se.ifmo.ru/

**🧮 Step 1 — Determine your variant**

Your ISU number: **473329**

| **Operation** | **Result** | **Task number** |
| --- | --- | --- |
| 473329 % 7 | 3 | Task 1 → **#3** |
| 473329 % 5 | 4 | Task 2 → **#4** |
| 473329 % 3 | 1 | Task 3 → **#1** |

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**Task 1 — 35 points**

File: Informatics\_Lab3\_Task1.py

**Task №3: Extract and sort surnames alphabetically.**

You need to:

* Write a Python program using **regular expressions (regex)**.
* Find all **surnames** in a given text.
* A surname is defined as a **word starting with a capital letter**, followed by **initials** (e.g., Иванов И.И.).
* **Double surnames** (like Голованова-Иванова) must also be handled.
* Print all found surnames **sorted alphabetically**, one per line.
* Create at least **5 test examples**.

**Example:**

Input:

Студент Вася вспомнил, что Балакшин П.В. рассказывал о студентах:

Анищенко А.А., Машина Е.А. и Голованова-Иванова Д.В.

Output:

Анищенко

Балакшин

Голованова-Иванова

Машина

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**Task 2 — 45 points**

File: Informatics\_Lab3\_Task2.py

**Task №4: Find words that contain 3 given letters in a specific order and distance.**

You must:

* Choose **three letters** (e.g., K, R, A) and a **fixed distance** between them (e.g., 1 letter between each).
* Using **regex**, find all **words** that contain these three letters in that **exact order and distance**.
* A word is any sequence of characters separated by spaces.
* Show all matching words.
* Prepare 5 tests.

**Example from the file:**

Letters: K, R, A with distance = 1

Input:

КоРмА

КоРкА

КоРчмА

Output:

КоРмА

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**Task 3 (Optional Bonus) — +20 points**

File: Informatics\_Lab3\_Task3.py

**Task №1: Replace adjective case forms.**

You must:

* Input a text and a **word number (N)**.
* The program should **find adjectives repeated multiple times** and change their case form (ending) to **match the form of the N-th word**.
* This simulates grammatical case matching.

**Example:**

Input:

1) Word number: 2

2) Text:

Футбольный клуб «Реал Мадрид» является 15-кратным обладателем главного

футбольного европейского трофея – Лиги Чемпионов...

Output:

Футбольного клуб «Реал Мадрид» является ...

Would you like me to now **write the actual Python code** for **Task 1 (surname extraction and sorting)** for you — including the regex and test examples?