Assignment: Online Course Enrollment Cleaner

You are building a **backend utility for an online learning platform (like Udemy)**.

Students sometimes:

* Enroll multiple times in the same course

* Enroll in **deprecated courses**

* Enroll in **premium courses without access**

Your task is to **clean and validate enrollments** using Python container data structures.

Given Data

```
# All courses available on the platform
all_courses = {
    "Python Basics",
    "Data Science",
    "Machine Learning",
    "Deep Learning",
    "SQL Fundamentals",
    "Docker for Python",
    "Cloud Computing"
}
```

```python
# Courses that are no longer available
deprecated_courses = {
    "Cloud Computing",
    "SQL Fundamentals"
}


# Premium-only courses
premium_courses = {
    "Machine Learning",
    "Deep Learning"
}


# Student enrollment list (may contain duplicates)
student_enrollments = [
    "Python Basics",
    "Data Science",
    "Machine Learning",
    "Machine Learning",
    "Cloud Computing",
    "Docker for Python",
    "SQL Fundamentals"
]


# Student subscription type
subscription_type = "free"   # change to "premium" to test
```

```
```

Tasks to Complete

Task 1: Remove Duplicate Enrollments

* Use a **set** to remove duplicate courses.

* * Store the cleaned result in a new variable.

Task 2: Remove Deprecated Courses

* Loop through the cleaned enrollments.

* If a course is in `deprecated_courses`, exclude it.

Task 3: Validate Subscription Access

* If the student is on a **free plan**, remove all premium courses.

* If the student is on a **premium plan**, allow all valid courses.

Task 4: Final Output

Print:

1. Final enrolled courses

2. Total number of courses

3. Courses the student was **denied access to**

Optional Challenge (Bonus Task)

> Convert the final enrolled courses into a **sorted tuple** and print it.