Database Lab

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Task 1:

- In the provided file, 3 insert functions were already implemented ("**insertPerson**", **"insertCourses"** and "**insertProject**").

- We implemented the remaining functions ("**insertLanguages", "insertHobbies", "insertTrainings", "insertTrainingSite")** to complete the form.

Task 2:

- to redirect users to the page aggregates after submitting the form, we implemented the function "**display results**" to handle the submission of a form and potentially redirect the user to the aggregates page based on the value of a hidden input field within the form.

- If the hidden field's value is **"1",** the user is redirected

- window.location.href = "aggregates.jsp";

Task 3: Aggregates functions

After inserting some dummy data into the database and using CSS to visually enhance the presentation of our aggregated data,then we tried those statements on MySQL workbench

> SELECT country, COUNT(*) * 100.0 / (SELECT COUNT(*) FROM person) AS percentage FROM person
>
> GROUP BY country

This statement calculates the percentage of people from each country in the **"person"** table relative to the total number of people in the table.

Output:
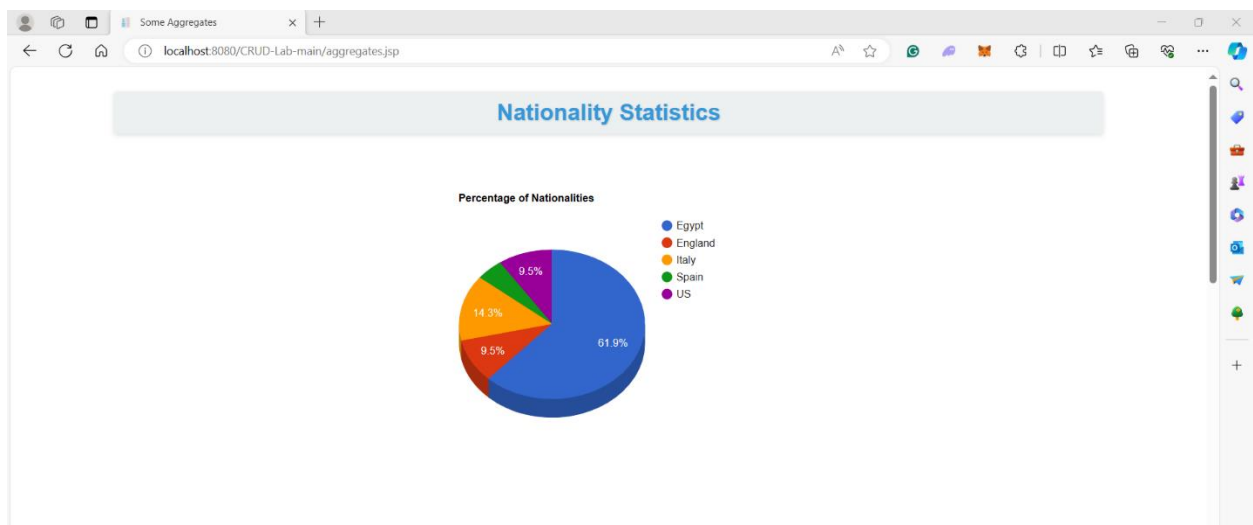
SELECT languageName, COUNT(*) AS count FROM mycvproject.language

WHERE languageName IS NOT NULL AND languageName <> GROUP BY languageName ORDER BY count DESC;

This statement gets a list of different languages from table "**languageName**" along with the **count** of occurrences for each of them, where the values are not **NULL** and not an empty string (" "), ordered from highest to lowest count.

Output:

Languages

Language Name	Count
English	28
Arabic	23
Italian	21
Deutsch	6
Spanish	5
Hindi	1

```sql
SELECT projectName as most_common_project_in_Egypt,
COUNT(*) as count

FROM mycvproject.project JOIN mycvproject.person ON
person.idperson = project.person_idperson

 WHERE country = 'Egypt' AND projectName IS NOT NULL AND
TRIM(projectName) <> '' "

GROUP BY projectName ORDER BY count DESC LIMIT 4;
```

This statement gets a list of up to 4 most common project names from the "**project**" table along with the count of occurrences for each project name, based on projects associated with individuals from Egypt in the "**person**" table.
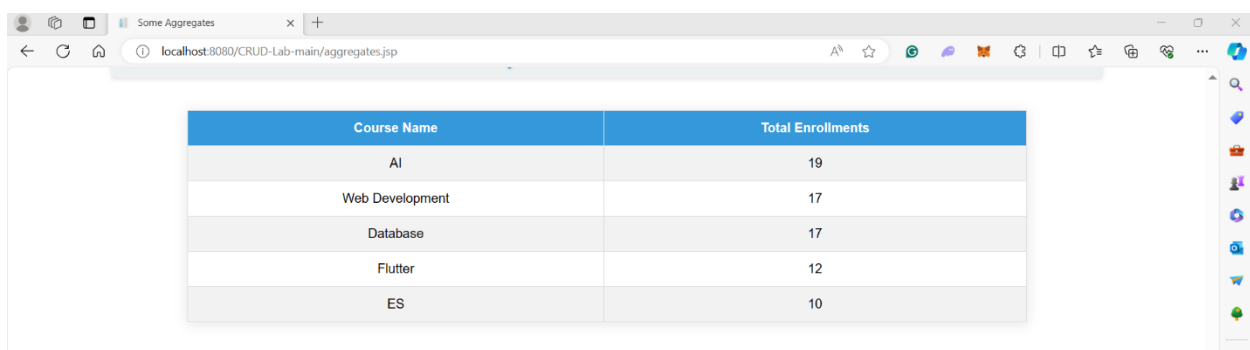
Output:

Top Projects in Egypt

Project Name	Count
E-commerce website	10
Messaging application	6
Photo sharing app	6
Online multiplayer game	3

SELECT courseName, COUNT(idperson) AS total_enrollments

FROM mycvproject.course

JOIN mycvproject.person ON person.idperson = course.person_idperson WHERE courseName IS NOT NULL AND TRIM(courseName) <> '' '' GROUP BY courseName

ORDER BY total_enrollments DESC LIMIT 5

This statement gets a list of up to 5 courses with the highest enrollments along with the total enrollments for each course from the table "**course**". The courses are filtered to exclude null or empty values and are presented in descending order.

Output:

Course Name	Total Enrollments
AI	19
Web Development	17
Database	17
Flutter	12
ES	10

```sql
SELECT hobbyName AS least_common_hobby, COUNT(*) AS count

FROM mycvproject.hobby

WHERE hobbyName IS NOT NULL AND TRIM(hobbyName) <> '' '

GROUP BY hobbyName HAVING COUNT(*) >= 1

ORDER BY count ASC  LIMIT 3;
```

This statement gets a list of up to 3 least common hobby names from table "**hobby**" along with the count of occurrences for each hobby name, on condition that they are not null and not empty strings.

Output:

Least Common hobbies

Hobby Name	Count
Darts	1
Doing puzzles	2
Cooking	2

```
SELECT fName, COUNT(*) OVER() AS totalCount
FROM mycvproject.person WHERE city = 'Zagazig'
```

This statement retrieves information about individuals (**fName**) from the "**person**" table who reside in the city of 'Zagazig', along with a total count of all records in the table that meet this criteria.

Output:

People from Zagazig
First Name
Hazem
Atef
Abdelzaher
Haleem
Alaa
Gehad
Total People from Zagazig: 6