

**TASK REPORT**  
**WEEK PROGRAMING**  
**WEEK 4**



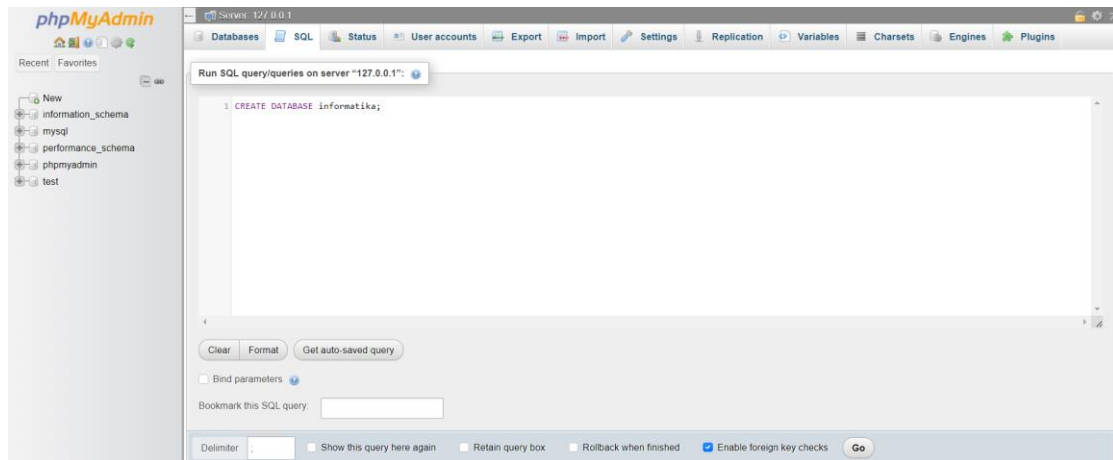
**Created by:**  
**Cesario Hafidh Arifa Noorcholish**  
**L200224217**

**X**

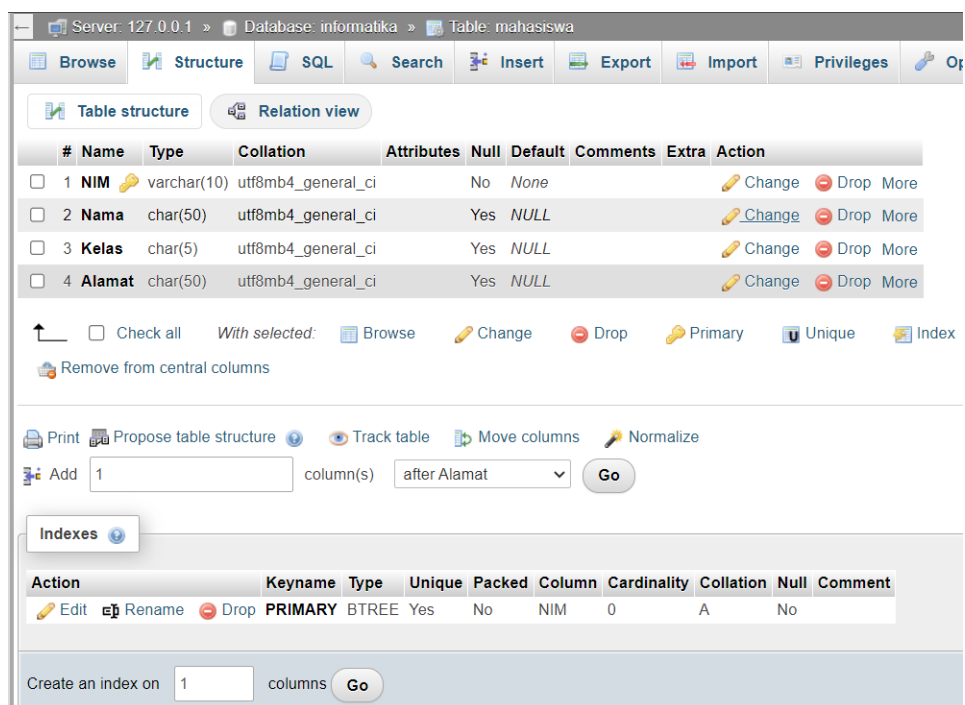
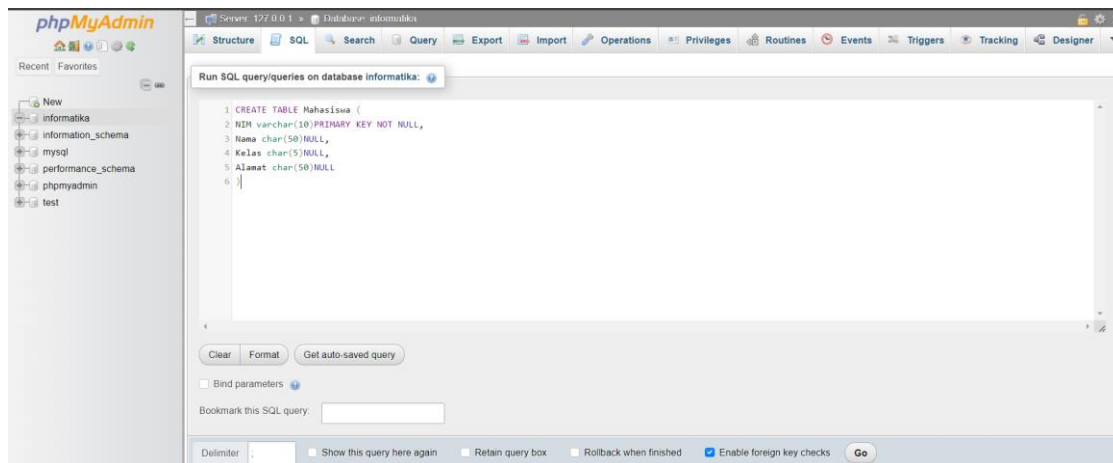
**INFORMATICS ENGINEERING**  
**FACULTY OF COMMUNICATION AND INFORMATICS**  
**UNIVERSITAS MUHAMMADIYAH SURAKARTA**  
**2023/2024**

# TASK

## 1. Experiment 1 (Create Database)



## 2. Experiment 2 (Create Table)



### 3. Experiment 3 (Insert Data)

Server: 127.0.0.1 » Database: informatika

Structure SQL Search Query Export Import

Run SQL query/queries on database informatika:

```
1 INSERT INTO Mahasiswa VALUES('L20080001','Ari Wibowo','A','Solo')
```

Server: 127.0.0.1 » Database: informatika » Table: Mahasiswa

Browse Structure SQL Search Insert Export Import

Show query box

Showing rows 0 - 0 (1 total, Query took 0.0006 seconds.)

```
SELECT * FROM Mahasiswa;
```

☐ Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

	NIM	Nama	Kelas	Alamat
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	L20080001	Ari Wibowo	A	Solo

☐ Check all | With selected: ☐ Edit ☐ Copy ☐ Delete ☐ Export

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Server: 127.0.0.1 » Database: informatika

Structure SQL Search Query Export Import Operations

Run SQL query/queries on database informatika:

```
1 INSERT INTO Mahasiswa (NIM, NAMA, Kelas) VALUES('L20080080','Agustina','B');
```

```
SELECT * FROM mahasiswa;
```

[ Edit inline ] [ Edit ] [ Create PHP code ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key:

Extra options

	NIM	Nama	Kelas	Alamat
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	L20080001	Ari Wibowo	A	Solo
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	L20080080	Agustina	B	NULL

☐ Check all | With selected: ☐ Edit ☐ Copy ☐ Delete ☐ Export

#### 4. Experiment 4 (Changing Data)

Server: 127.0.0.1 » Database: informatika

Structure SQL Search Query Export Import Operations

Run SQL query/queries on database informatika:

```
1 UPDATE Mahasiswa SET Nama='Agustina Anggraini' WHERE Nama='Agustina';
```

Showing rows 0 - 1 (2 total, Query took 0.0007 seconds.)

```
SELECT * FROM Mahasiswa;
```

Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key:

Extra options

	NIM	Nama	Kelas	Alamat
<input type="checkbox"/> Edit Copy Delete	L20080001	Ari Wibowo	A	Solo
<input type="checkbox"/> Edit Copy Delete	L20080080	Agustina Anggraini	B	NULL

Check all | With selected: Edit Copy Delete Export

#### 5. Experiment 5 (Join)

##### 1. Table Nilai

Server: 127.0.0.1 » Database: informatika

Structure SQL Search Query Export Import Operations Privileges Routines

Run SQL query/queries on database informatika:

```
1 CREATE TABLE Nilai(NIM varchar(15) PRIMARY KEY NOT NULL
2 , Nama_MK varchar(50) , Nilai_Angka INTEGER, Nilai_Huruf VARCHAR(5));
3
4 INSERT INTO Nilai(NIM, Nama_MK, Nilai_Angka, Nilai_Huruf) VALUES ('L20080002','Kapita Seleкта','60','BC'),
5 ('L20080001','Pemrograman Web','87','A'),
6 ('L20080008','Pemrograman Web','90','A');
7
8 select * from Nilai;
```

```
SELECT * FROM `nilai`;
```

Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key:

Extra options

	NIM	Nama_MK	Nilai_Angka	Nilai_Huruf
<input type="checkbox"/> Edit Copy Delete	L20080001	Pemrograman Web	87	A
<input type="checkbox"/> Edit Copy Delete	L20080002	Kapita Seleкта	60	BC
<input type="checkbox"/> Edit Copy Delete	L20080008	Pemrograman Web	90	A

Check all | With selected: Edit Copy Delete Export

## 2. Experiment

Server: 127.0.0.1 » Database: informatika

Structure SQL Search Query Export Import Operations Privileges Routines

Run SQL query/queries on database informatika:

```
1 SELECT Mahasiswa.NIM, Mahasiswa>Nama, Nilai>Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf FROM (Mahasiswa
2 JOIN Nilai ON Mahasiswa.NIM = Nilai.NIM);
```

```
SELECT Mahasiswa.NIM, Mahasiswa>Nama, Nilai>Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf FROM (Mahasiswa JOIN Nilai ON Mahasiswa.NIM = Nilai.NIM);
```

☐ Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

NIM	Nama	Nama_MK	Nilai_Angka	Nilai_Huruf
L200080001	Ari Wibowo	Pemrograman Web	87	A
L200080080	Agustina Anggraini	Pemrograman Web	90	A

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

## 6. Experiment 6 (Left Join)

Server: 127.0.0.1 » Database: informatika

Structure SQL Search Query Export Import Operations Privileges

Run SQL query/queries on database informatika:

```
1 SELECT Mahasiswa.NIM, Mahasiswa>Nama, Nilai>Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf
2 FROM (Mahasiswa LEFT JOIN Nilai ON Mahasiswa.NIM = Nilai.NIM);
```

```
SELECT Mahasiswa.NIM, Mahasiswa>Nama, Nilai>Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf FROM (Mahasiswa LEFT JOIN Nilai ON Mahasiswa.NIM = Nilai.NIM);
```

☐ Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

NIM	Nama	Nama_MK	Nilai_Angka	Nilai_Huruf
L200080001	Ari Wibowo	Pemrograman Web	87	A
L200080080	Agustina Anggraini	Pemrograman Web	90	A

☐ Show all | Number of rows: 25 | Filter rows: Search this table

## 7. Experiment 7 (Right Join)

Server: 127.0.0.1 » Database: informatika

Structure SQL Search Query Export Import Operations Privileges

Run SQL query/queries on database informatika:

```
1 SELECT Mahasiswa.NIM, Mahasiswa>Nama, Nilai>Nama_MK, Nilai.Nilai_Anka, Nilai.Nilai_Huruf
2 FROM (Mahasiswa RIGHT JOIN Nilai ON Mahasiswa.NIM = Nilai.NIM);
```

`SELECT Mahasiswa.NIM, Mahasiswa>Nama, Nilai>Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf FROM (Mahasiswa RIGHT JOIN Nilai ON Mahasiswa.NIM = Nilai.NIM);`

☐ Profiling [\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Explain SQL \]](#) [\[ Create PHP code \]](#) [\[ Refresh \]](#)

☐ Show all | Number of rows: 25 | Filter rows:

Extra options

NIM	Nama	Nama_MK	Nilai_Angka	Nilai_Huruf
L200080001	Ari Wibowo	Pemrograman Web	87	A
NULL	NULL	Kapita Selekta	60	BC
L200080080	Agustina Anggraini	Pemrograman Web	90	A

☐ Show all | Number of rows: 25 | Filter rows:

## 8. Experiment 8 (AVG Function)

Server: 127.0.0.1 Database: informatika

Structure SQL Search Query Export Import

Run SQL query/queries on database informatika:

```
1 SELECT AVG(Nilai_Angka) AS "Rata-Rata Nilai" FROM Nilai;
```

`SELECT AVG(Nilai_Angka) AS "Rata-Rata Nilai" FROM Nilai;`

☐ Profiling [\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Explain SQL \]](#) [\[ Create PHP code \]](#) [\[ Refresh \]](#)

☐ Show all | Number of rows: 25 | Filter rows:

Extra options

**Rata-Rata Nilai**

79.0000

## 9. Experiment 9 (SUM Function)

Server: 127.0.0.1 Database: informatika

Structure SQL Search Query Export

Run SQL query/queries on database informatika:

```
1 SELECT SUM(Nilai_Angka) Total_Nilai FROM Nilai;
```

`SELECT SUM(Nilai_Angka) Total_Nilai FROM Nilai;`

☐ Profiling [\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Explain SQL \]](#) [\[ Create PHP code \]](#) [\[ Refresh \]](#)

☐ Show all | Number of rows: 25 | Filter rows:

Extra options

**Total\_Nilai**

237

## 10. Experiment 10 (View)

The screenshot shows a database management interface with the following components:

- Header:** Server: 127.0.0.1 » Database: informatika » Table: Nilai
- Navigation Bar:** Browse, Structure, SQL, Search, Insert, Export, Import
- Query Editor:** Run SQL query/queries on table informatika.Nilai:

```
1 CREATE VIEW KHS AS
2 SELECT Mahasiswa.NIM, Nilai>Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf
3 FROM Mahasiswa
4 INNER JOIN Nilai ON Mahasiswa.NIM = Nilai.NIM;
5
6 SELECT * FROM KHS
```
- Execution Bar:** `SELECT * FROM KHS;` [ Profiling ] [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
- Table Controls:** ☐ Show all | Number of rows: 25 | Filter rows: Search this table
- Extra options:** [ Extra options ]
- Table View:**

	NIM	Nama_MK	Nilai_Angka	Nilai_Huruf
<input type="checkbox"/> Edit Copy Delete	L200080000	Pemrograman Web	87	A
<input type="checkbox"/> Edit Copy Delete	L200080008	Pemrograman Web	90	A
- Table Actions:** ☐ Check all | With selected: Edit Copy Delete Export
- Footer Controls:** ☐ Show all | Number of rows: 25 | Filter rows: Search this table

## ASSIGNMENT

### 1. What is the function of some of the following:

#### 1) SELECT

The SELECT statement retrieves specific data from one or more database tables. It allows users to specify the columns they want to retrieve and can include additional clauses for filtering, sorting, grouping, and limiting results

#### 2) JOIN

The JOIN operation combines rows from two or more tables based on a related column between them. It retrieves records that have matching values in the specified columns from both tables.

#### 3) LEFT JOIN

A LEFT JOIN retrieves all records from the table specified on the left side of the join operation and matching records from the table on the right side. If there is no

match in the right table, NULL values are returned for the columns of the right table.

#### 4) RIGHT JOIN

A RIGHT JOIN is similar to a LEFT JOIN, but it retrieves all records from the table specified on the right side of the join operation and matching records from the left table. If there is no match in the left table, NULL values are returned for the columns of the left table.

#### 5) AVG

The AVG function is an aggregate function used to compute the average value of a numeric column in a result set. It excludes NULL values from the calculation.

#### 6) SUM

The SUM function is an aggregate function used to calculate the total sum of values in a numeric column in a result set. It adds up all the values in the specified column.

## 2. Write SQL Syntax to populate Address data "Sragen" in the Students table (experiment 3) in NIM L20008080.

The screenshot shows a database management interface with the following components:

- Header:** Server: 127.0.0.1 » Database: informatika » Table: mahasiswa
- Navigation Bar:** Browse, Structure, SQL, Search, Insert, Export, Import, Privileges
- SQL Editor:** Run SQL query/queries on table informatika.mahasiswa:  

```
1 UPDATE `mahasiswa` SET `Alamat` = 'Sragen' WHERE `mahasiswa`.`NIM` = 'L200080080';  
2 SELECT * FROM mahasiswa;
```
- Execution Bar:** ☐ Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
- Table Controls:** ☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None
- Table Data:**

	NIM	Nama	Kelas	Alamat
<input type="checkbox"/>	L200008000	Ari wibowo	A	Solo
<input type="checkbox"/>	L200080080	Agustina Nuggraini	B	Sragen
- Footer:** ☐ Check all | With selected: Edit Copy Delete Export