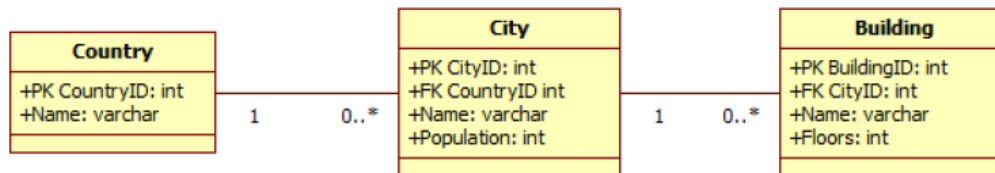


PROGRAMMER TEST

Instruksi : Silahkan jawab pertanyaan di bawah ini sesuai dengan logika dan syntaks yang anda tahu

1. Terdapat ilustrasi model data di database dengan skema sebagai berikut :



Country	
1	Indonesia
2	Malaysia
3	Singapura

City			
1	1	Jakarta	1000
2	1	Bandung	400
3	1	Medan	200
4	2	Kuala Lumpur	600
5	2	Penang	300
6	2	Johor Bahru	200
7	3	Singapura	400

Building			
1	1	Bidakara	30
2	1	Mulia Tower	40
3	2	Cihampelas Apart	20
4	4	Petronas	70
5	5	Standard Chartered	35
6	7	Marina Bays	50
7	7	Allianz Tower	60

Tuliskan query dan output untuk logika berikut :

- a) Munculkan kota yang populasi penduduknya lebih dari 500 dan output dari query tersebut
 - b) Munculkan kota yang tidak mempunyai gedung dan output dari query tersebut
 - c) Munculkan negara yang mempunyai kota dengan populasi kurang dari 500 dan output dari query tersebut
 - d) Munculkan gedung yang terdapat di negara Indonesia dan Malaysia dan output dari query tersebut
 - e) Munculkan gedung yang terdapat di negara Indonesia dan Malaysia serta mempunyai tinggi lebih dari 40 lantai dan output dari query tersebut
2. Buatlah coding pemrograman dengan menggunakan logical (For/While/Do While) untuk memunculkan ouput sebagai berikut :
- a.

```
*  
**  
***  
****  
*****
```
 - b.

```
5 4 3 2 1  
5 4 3 2  
5 4 3  
5 4  
5
```
 - c.

```
1  
1 3  
1 3 5  
1 3 5 7  
1 3 5 7 9
```
 - d.

```
3 2 1  
3 2  
3  
3 2  
3 2 1
```
 - e.

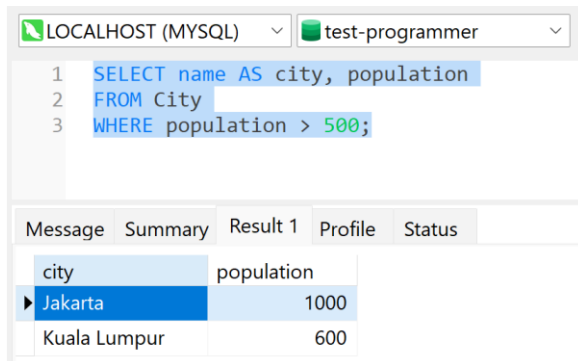
```
2 3 5 7 11
```
3. Lampirkan project aplikasi yang pernah anda kerjakan. (berupa screenshot atau dummy aplikasi yg bisa diakses).

SELAMAT MENGERJAKAN, SEMOGA SUKSES !

Jawab

1. a) Munculkan kota yang populasi penduduknya lebih dari 500 dan output dari query tersebut

```
SELECT name AS city, population  
FROM City  
WHERE population > 500;
```

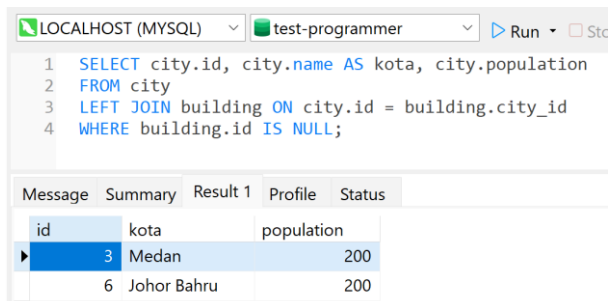


The screenshot shows a MySQL query window with the query: `SELECT name AS city, population FROM City WHERE population > 500;`. The results are displayed in a table with two columns: 'city' and 'population'. The results are:

city	population
Jakarta	1000
Kuala Lumpur	600

1. b) Munculkan kota yang tidak mempunyai gedung dan output dari query tersebut

```
SELECT city.id, city.name AS kota, city.population  
FROM city  
LEFT JOIN building ON city.id = building.city_id  
WHERE building.id IS NULL;
```

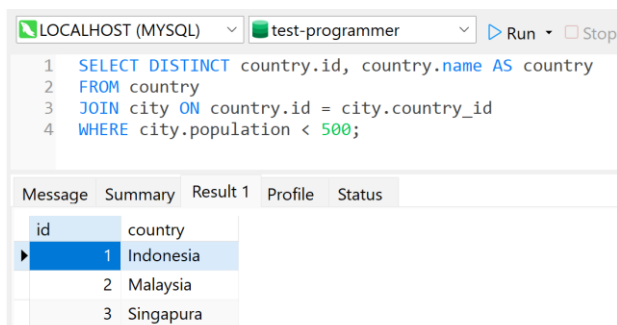


The screenshot shows a MySQL query window with the query: `SELECT city.id, city.name AS kota, city.population FROM city LEFT JOIN building ON city.id = building.city_id WHERE building.id IS NULL;`. The results are displayed in a table with three columns: 'id', 'kota', and 'population'. The results are:

id	kota	population
3	Medan	200
6	Johor Bahru	200

1. c) Munculkan negara yang mempunyai kota dengan populasi kurang dari 500 dan output dari query tersebut

```
SELECT DISTINCT country.id, country.name AS country  
FROM country  
JOIN city ON country.id = city.country_id  
WHERE city.population < 500;
```



The screenshot shows a MySQL query window with the query: `SELECT DISTINCT country.id, country.name AS country FROM country JOIN city ON country.id = city.country_id WHERE city.population < 500;`. The results are displayed in a table with two columns: 'id' and 'country'. The results are:

id	country
1	Indonesia
2	Malaysia
3	Singapura

1. d) Munculkan gedung yang terdapat di negara Indonesia dan Malaysia dan output dari query tersebut

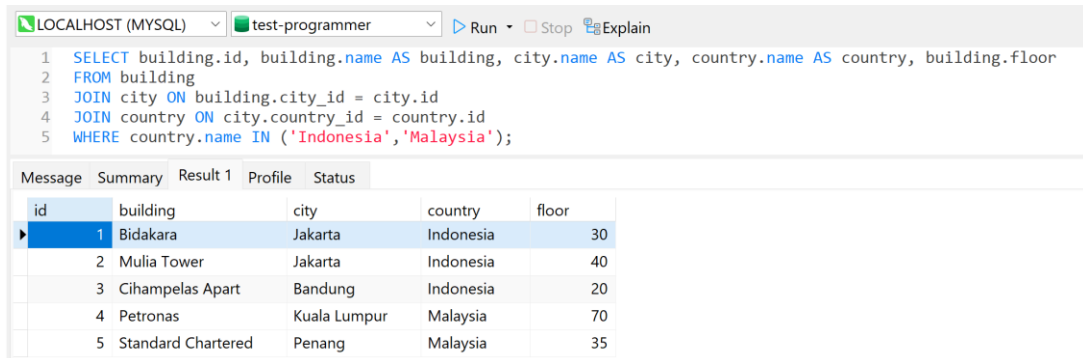
```
SELECT building.id, building.name AS building, city.name AS city, country.name AS country, building.floor
```

```
FROM building
```

```
JOIN city ON building.city_id = city.id
```

```
JOIN country ON city.country_id = country.id
```

```
WHERE country.name IN ('Indonesia','Malaysia');
```



The screenshot shows a MySQL query execution interface. The query is as follows:

```
1 SELECT building.id, building.name AS building, city.name AS city, country.name AS country, building.floor
2 FROM building
3 JOIN city ON building.city_id = city.id
4 JOIN country ON city.country_id = country.id
5 WHERE country.name IN ('Indonesia','Malaysia');
```

The results are displayed in a table with the following columns: id, building, city, country, and floor.

id	building	city	country	floor
1	Bidakara	Jakarta	Indonesia	30
2	Mulia Tower	Jakarta	Indonesia	40
3	Cihampelas Apart	Bandung	Indonesia	20
4	Petronas	Kuala Lumpur	Malaysia	70
5	Standard Chartered	Penang	Malaysia	35

1. e) Munculkan gedung yang terdapat di negara Indonesia dan Malaysia serta mempunyai tinggi lebih dari 40 lantai dan output dari query tersebut

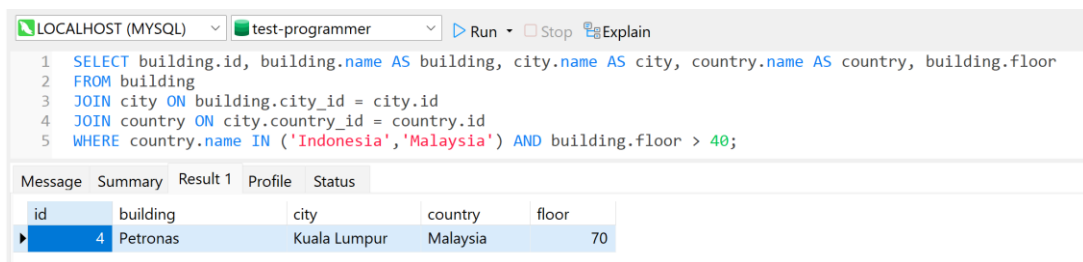
```
SELECT building.id, building.name AS building, city.name AS city, country.name AS country, building.floor
```

```
FROM building
```

```
JOIN city ON building.city_id = city.id
```

```
JOIN country ON city.country_id = country.id
```

```
WHERE country.name IN ('Indonesia','Malaysia') AND building.floor > 40;
```



The screenshot shows a MySQL query execution interface. The query is as follows:

```
1 SELECT building.id, building.name AS building, city.name AS city, country.name AS country, building.floor
2 FROM building
3 JOIN city ON building.city_id = city.id
4 JOIN country ON city.country_id = country.id
5 WHERE country.name IN ('Indonesia','Malaysia') AND building.floor > 40;
```

The results are displayed in a table with the following columns: id, building, city, country, and floor.

id	building	city	country	floor
4	Petronas	Kuala Lumpur	Malaysia	70

2. a)

```
<?php
```

```
    for ($i=1; $i <= 5; $i++) {
        for ($j=1; $j <= $i; $j++) {
            echo "**";
        }
        echo "<br>";
    }
}
```

```
?>
```

2. b)

```
<?php
    for ($i=5; $i >= 1; $i--) {
        for ($j=5; $j >= 6-$i; $j--) {
            echo $j . " ";
        }
        echo "<br>";
    }
?>
```

2. c)

```
<?php
    for ($i = 1; $i <= 9; $i += 2) {
        for ($j = 1; $j <= $i; $j += 2) {
            echo $j . " ";
        }
        echo "<br>";
    }
?>
```

2. d)

```
<?php
    for ($i = 3; $i >= 1; $i--) {
        for ($j = 3; $j >= 4 - $i; $j--) {
            echo $j . " ";
        }
        echo "<br>";
    }
    for ($i = 2; $i <= 3; $i++) {
        for ($j = 3; $j >= 4 - $i; $j--) {
            echo $j . " ";
        }
        echo "<br>";
    }
?>
```

2. e)

```
<?php
```

```
    $count = 0;
```

```
    $num = 2;
```

```
    while ($count < 5) {
```

```
        $prima = true;
```

```
        for ($i=2; $i <= sqrt($num); $i++) {
```

```
            if ($num % $i == 0) {
```

```
                $prima = false;
```

```
                break;
```

```
            }
```

```
        }
```

```
        if ($prima) {
```

```
            echo $num . " ";
```

```
            $count++;
```

```
        }
```

```
        $num++;
```

```
    }
```

```
?>
```

3. <https://aulya.id/portofolio>

Portfolio juga saya lampirkan pada file pdf terpisah