Jobsheet-4: PHP

Web Design and Programming Courses

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Link github: https://github.com/Majid5654/Semester-3/tree/master/Week4

- **Practical Section 1. Variables and Constants**

1. What do you understand from the use of variables on the file? Record your understanding below. (Question No. 1)

Hasil penjumlahan 10 dan 5 adalah 15 variabel benar: 1,Variabel salah: Selamat Datang di WebsiteKu.comSitus yang didirikan pada tahun 2023.
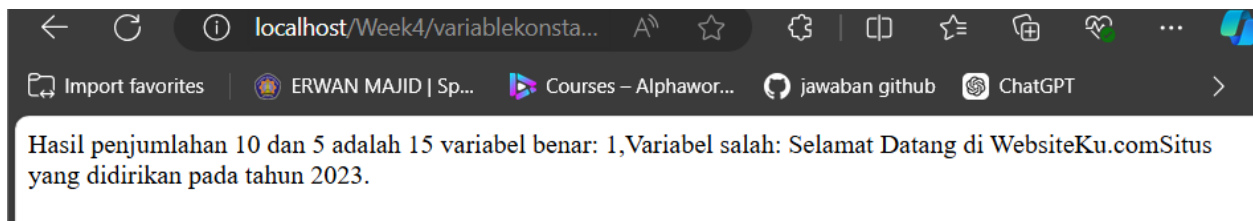
-first is we declare angka1 = 10,angka 2 = 5

-Their sum is stored in the variable $hasil, and then printed using echo

-The boolean variables $benar and $salah are set to true and false
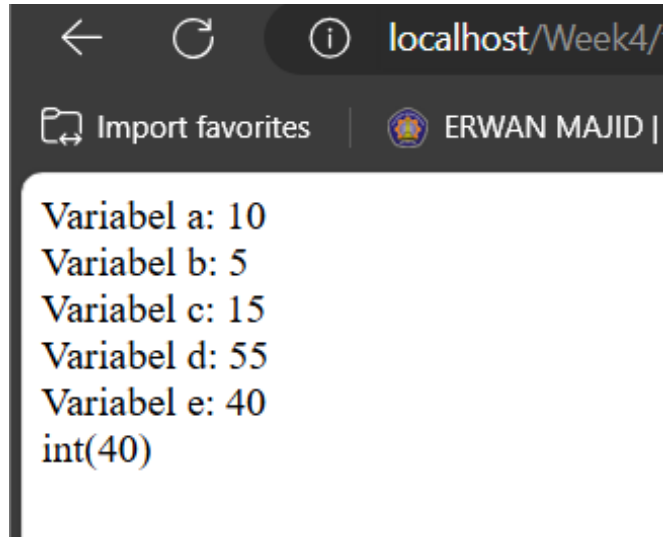
-define("NAMA_SITUS", "WebsiteKu.com");

define("TAHUN_PENDIRIAN",2023);

then it print Selamat Datang di " .NAMA_SITUS. And print websiteku.com

"Situs yang didirikan pada tahun " .TAHUN_PENDIRIAN. "."; print 2023

- **Practicum 2: Use of Data Types**

2. Explain what you understand from the code below. (Question No. 2)

```
←  C   ⓘ  localhost/Week4/t

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Variabel a: 10
Variabel b: 5
Variabel c: 15
Variabel d: 55
Variabel e: 40
int(40)
```
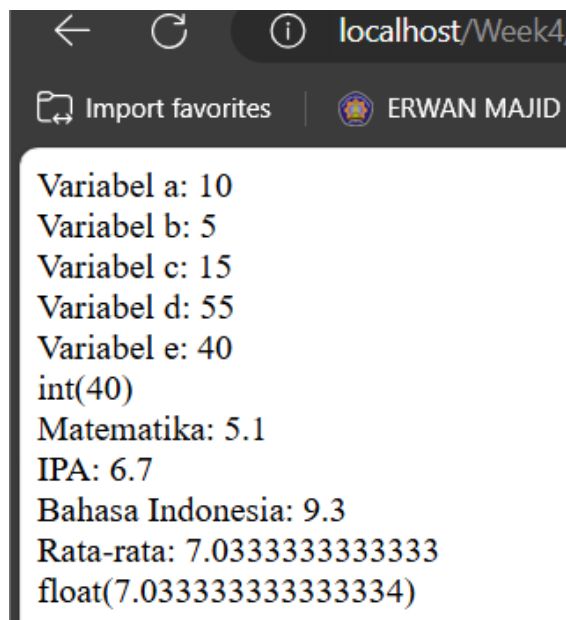
$u – $b + (10   5) calculates $u – 5 + 50 – 55.

$e = $d - $c calculates $e = 55 - 15 = 40.

Each variable is printed using echo

The var_dump($e) function is used to display the data type and value of $e,

3. Explain what you understand from the code below. (Question No. 3)

```
←  C    ⓘ  localhost/Week4

⮌ Import favorites        ⬤ ERWAN MAJID

Variabel a: 10
Variabel b: 5
Variabel c: 15
Variabel d: 55
Variabel e: 40
int(40)
Matematika: 5.1
IPA: 6.7
Bahasa Indonesia: 9.3
Rata-rata: 7.0333333333333
float(7.033333333333334)
```
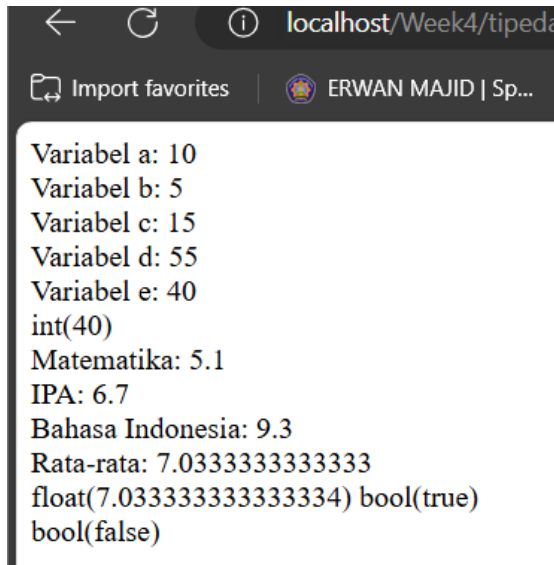
-Scores for three subjects ($nilaiMatematika, $nilaiIPA, and $nilaiBahasaIndonesia) are initialized.

-The average of these three scores is calculated (sum 3 subject and divided by 3) and stored in $rataRata.

-The subject scores and the average are printed.

-var_dump($rataRata) shows the data type and value of $rataRata

4. Explain what you understand from the code below. (Question No. 4)


```
←   ↻   ⓘ   localhost/Week4/tipeda

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Variabel a: 10
Variabel b: 5
Variabel c: 15
Variabel d: 55
Variabel e: 40
int(40)
Matematika: 5.1
IPA: 6.7
Bahasa Indonesia: 9.3
Rata-rata: 7.0333333333333
float(7.033333333333334) bool(true)
bool(false)
```

-$apakahSiswaLulus = true; → Represents that the student has passed.

-$apakahSiswaSudahUjian = false; → Represents that the student has not yet taken the exam.

-var_dump($apakahSiswaLulus); displays the data type and value of $apakahSiswaLulus as:true

-var_dump($apakahSiswaSudahUjian); displays the data type and value of $apakahSiswaSudahUjian as:false

5. Explain what you understand from the code below. (Question No. 5)

-$namaDepan = "Ibnu"; → Represents the first name.

-$namaBelakang = "Jakaria"; → Represents the last name.

-$namaLengkap = "{$namaDepan} {$namaBelakang}"; → Uses double quotes with interpolation to combine the first and last names with a space in between.

-$namaLengkap2 = $namaDepan .' '. $namaBelakang; combines them using concatenation (.) with single quotes

6. Explain what you understand from the code below. (Question No. 6)

-$listMahasiswa = ["wahid Abdullah", "Elmo bachtiar", "Lendis Fabri"]; initializes an array containing three names

-echo $listMahasiswa[0]; prints the first element of the array, which is "wahid Abdullah"

Practical Section 3: The Use of PHP Operators

7. Complete the program code above so that it can display the results and be neat. (Question No.7)

```php
echo "Hasil Penjumlahan: $hasilTambah <br>";
echo "Hasil Pengurangan: $hasilKurang <br>";
echo "Hasil Perkalian: $hasilKali <br>";
echo "Hasil Pembagian: $hasilBagi <br>";
echo "Sisa Bagi: $sisaBagi <br>";
echo "Hasil Pangkat: $pangkat <br>";
?>
```

8. Save the file, then open a browser and run localhost/week4/operator.php . Observe what is happening and explain what you understand. (Question No. 8)

Hasil Penjumlahan: 15
Hasil Pengurangan: 5
Hasil Perkalian: 50
Hasil Pembagian: 2
Sisa Bagi: 0
Hasil Pangkat: 100000
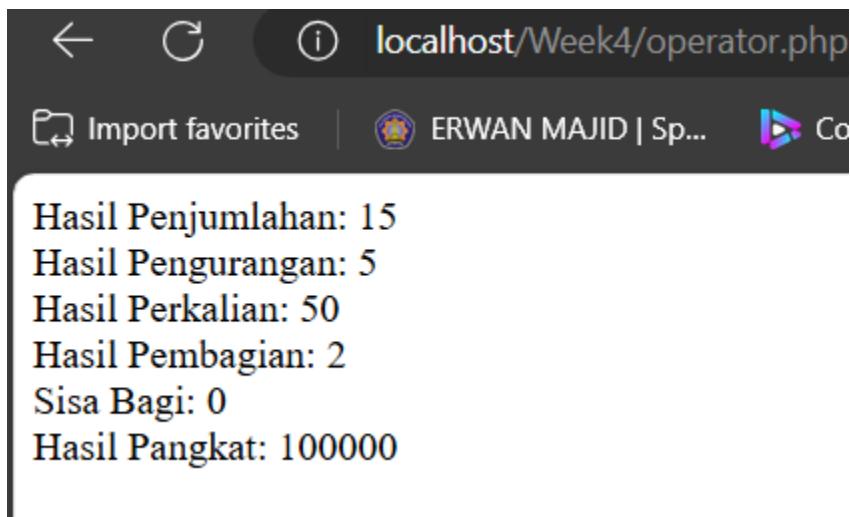
-To output the results of the calculations using echo,

9. Complete the program code above so that it can display the results and be neat. Save the file, then open a browser and run /refresh localhost/week4/operator.php Observe what is happening and explain what you understand. (Question No. 9)

```php
echo "Apakah $a sama dengan $b " . ($hasilSama ? 'true' : 'false') . "<br>";
echo "Apakah $a tidak sama dengan $b ? " . ($hasilTidakSama ? 'true' : 'false') . "<br>";
echo "Apakah $a lebih kecil dari $b ? " . ($hasilLebihkecil ? 'true' : 'false') . "<br>";
echo "Apakah $a lebih besar dari $b ? " . ($hasilLebihBesar ? 'true' : 'false') . "<br>";
echo "Apakah $a lebih kecil atau sama dengan $b ? " . ($hasilLebihKecilSama ? 'true' : 'false') . "<br>";
echo "Apakah $a lebih besar atau sama dengan $b ? " . ($hasilLebihBesarSama ? 'true' : 'false') . "<br>";

?>
```

Apakah 10 sama dengan 5 false
Apakah 10 tidak sama dengan 5 ? true
Apakah 10 lebih kecil dari 5 ? false
Apakah 10 lebih besar dari 5 ? true
Apakah 10 lebih kecil atau sama dengan 5 ? false
Apakah 10 lebih besar atau sama dengan 5 ? true

-echo "Apakah $a sama dengan $b? " . ($hasilSama ? 'true' : 'false') . "<br>";

This checks if $hasilSama is true or false and appends "true" or "false" to the output,and so on

10. Complete the program code above so that it can display the results and be neat. Save the file, then open a browser and run /refresh localhost/week4/operator.php Observe what is happening and explain what you understand. (Question No. 10)

```php
$hasilAnd = $a && $b;
$hasilOr = $a || $b;
$hasilNotA = !$a;
$hasilNotB = !$b;
echo "<br>";
echo "<br>";
echo "Hasil AND: " . ($hasilAnd ? 'true' : 'false') . "<br>";
echo "Hasil OR: " . ($hasilOr ? 'true' : 'false') . "<br>";
echo "Hasil NOT A: " . ($hasilNotA ? 'true' : 'false') . "<br>";
echo "Hasil NOT B: " . ($hasilNotB ? 'true' : 'false') . "<br>";

?>
```

Hasil AND: true
Hasil OR: true
Hasil NOT A: false
Hasil NOT B: false

-$hasilAnd = $a && $b; checks if both $a and $b are true.

$hasilOr = $a || $b; checks if at least one of $a or $b is true.

$hasilNotA = !$a; negates the value of $a.

$hasilNotB = !$b; negates the value of $b.

Output:

Each result is displayed using echo, converting boolean values to "true" or "false" for readability.

11. Complete the program code above so that it can display the results and be neat. Save the file, then open a browser and run /refresh localhost/week4/operator.php Observe what is happening and explain what you understand. (Question No. 11)

```
$a += $b;
echo "After addition $a += $b : a = $a<br>";
$a -= $b;
echo "After subtraction $a -= $b : a = $a<br>";
$a *= $b;
echo "After multiplication $a *= $b : a = $a<br>";
$a /= $b;
echo "After division $a /= $b : a = $a<br>";
$a %= $b;
echo "After modulus $a %= $b : a = $a<br>";
```

After addition 15 += 5 : a = 15
After subtraction 10 -= 5 : a = 10
After multiplication 50 *= 5 : a = 50
After division 10 /= 5 : a = 10
After modulus 0 %= 5 : a = 0

-Addition ($a += $b): Adds $b to $a.
-Subtraction ($a -= $b): Subtracts $b from $a.
-Multiplication ($a *= $b): Multiplies $a by $b.
-Division ($a /= $b): Divides $a by $b.
-Modulus ($a %= $b): Sets $a to the remainder when divided by $b.

12. Complete the program code above so that it can display the results and be neat. Save the file, then open a browser and run /refresh localhost/week4/operator.php.Observe what is happening and explain what you understand. (Question No. 12)

```
60    $hasilIdentik = $a === $b;
61    echo "Are $a and $b identical? " . ($hasilIdentik ? 'Yes' : 'No') . "<br>";
62    $hasilTidakIdentik = $a !== $b;
63    echo "Are $a and $b non-identical? " . ($hasilTidakIdentik ? 'Yes' : 'No') . "<br>";
64
65    ?>
```

Are 10 and 5 identical? No
Are 10 and 5 non-identical? Yes

- $hasilIdentik = $a === $b; checks if $a and $b have the same value and type.

Displays Yes if they are identical, otherwise No.

-$hasilTidakIdentik = $a !== $b; checks if $a and $b are not the same in value or type.

Displays Yes if they are non-identical, otherwise No

13. Create a file with named latihanoperator.php. Write down the program code for step 16 and display the result below along with the program code (Question No. 13)

```
latihanoperator.php > ...
1     <?php
2     $totalSeats = 45;
3     $occupiedSeats = 28;
4
5     echo "Total Seats: $totalSeats <br>";
6     echo "Occupied Seats: $occupiedSeats <br>";
7     $emptySeats = $totalSeats - $occupiedSeats;
8     echo "Empty Seats : $emptySeats <br>";
9
10    $emptyPercentage = ($emptySeats / $totalSeats) * 100;
11
12
13    echo "The percentage of seats still empty is " . $emptyPercentage . "%.";
14    ?>
```
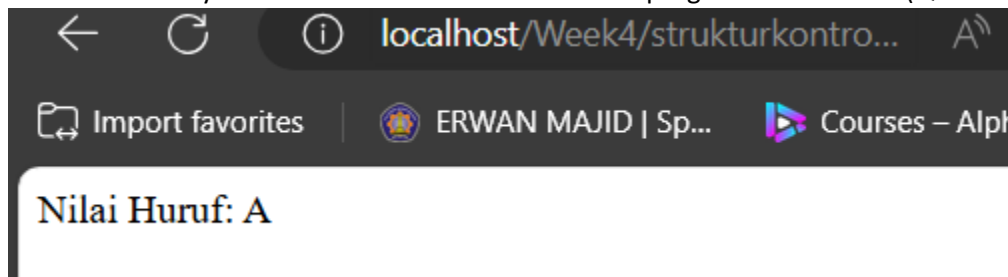
Total Seats: 45
Occupied Seats: 28
Empty Seats : 17
The percentage of seats still empty is 37.777777777778%.

- **Practical Section 4: The Use of Control Structures in PHP**
14. Note here what you observe from the addition of the program code above. (Question No. 14)

localhost/Week4/strukturkontro...

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Nilai Huruf: A

-If $nilaiNumerik is between 90 and 100, it outputs "Nilai Huruf: A".

If $nilaiNumerik is between 80 and 89, it outputs "Nilai Huruf: B".

If $nilaiNumerik is between 70 and 79, it outputs "Nilai Huruf: C".

If $nilaiNumerik is below 70, it outputs "Nilai Huruf: D".

Because in the first set $nilaiNumerik is 92, so it prints "Nilai Huruf: A".

15. Note here what you observe from the addition of the program code above. (Question No. 15)

Jarak Saat Ini 0
Jarak Target 500
Peningkatan Harian 30
Atlet tersebut memerlukan 17 hari untuk mencapai jarak 500 kilometer.

-$jarakSaatIni starts at 0 km.

$jarakTarget is set to 500 km, the goal distance.

$peningkatanHarian is 30 km, meaning the athlete increases the distance by 30 km per day.

$hari counts the number of days required.

-The while loop will keep adding the daily progress ($peningkatanHarian) to $jarakSaatIni and incrementing $hari until the total distance reaches or exceeds 500 km.

-The expected result is that the athlete will need 17 days to reach 500 km

16. Note here what you observe from the addition of the program code above. (Question No. 16)

Jumlah lahan: 10
Tanaman per lahan: 5
Buah per tanaman: 10
Jumlah buah yang akan dipanen adalah : 500

-The for loop runs for each field ($i from 1 to 10). In each iteration, it adds the product of $tanamanPerLahan and $buahPerTanaman to $jumlahBuah, calculating the total number of fruits.

In this case, the total number of fruits will be 10×5×10=500

17. Note here what you observe from the addition of the program code above. (Question No. 17)

Skor ujian ke-1 : 85
Skor ujian ke-2 : 92
Skor ujian ke-3 : 78
Skor ujian ke-4 : 96
Skor ujian ke-5 : 88
Total skor ujian adalah : 439

-$skorUjian: An array containing the exam scores [85, 92, 78, 96, 88].

$totalSkor: Initialized to 0, used to accumulate the total score.

$index: Initialized to 0 to track the current exam number.

The foreach loop iterates over each score in $skorUjian:

$totalSkor is updated by adding each exam score.

$index is incremented to show the current exam number.

Each score is displayed with its corresponding exam number using echo

18. Note here what you observe from the addition of the program code above. (Question No. 18)

```
--------------------------------------------
Nilai Mhs 1 : 85 (lulus)
Nilai Mhs 2 : 92 (lulus)
Nilai Mhs 3 : 58 (tidak lulus)
Nilai Mhs 4 : 64 (lulus)
Nilai Mhs 5 : 90 (lulus)
Nilai Mhs 6 : 55 (tidak lulus)
Nilai Mhs 7 : 88 (lulus)
Nilai Mhs 8 : 79 (lulus)
Nilai Mhs 9 : 70 (lulus)
Nilai Mhs 10 : 96 (lulus)
```

-$nilaiSiswa: An array containing student scores.

$indexx: A counter initialized at 0 to keep track of each student's number.

The foreach loop iterates over each score in $nilaiSiswa:

$indexx++: Increments to track the student's number.

if ($nilai < 60): Checks if the score is below 60. If so, it prints the student's score with the label "tidak lulus" (failed) and uses continue to skip to the next student.

If the score is 60 or higher, it prints the score with the label "lulus" (passed).

19. Create a file with the name kontrol1.php. Create the program code for step 21 and display the result below along with the program code (Question No. 19)

Grades all : 85 92 78 64 90 75 88 79 70 96

Grades after removing the two highest and two lowest: 85 78 90 75 88 79

Total after removing two highest and two lowest grades: 495
Average after removing two highest and two lowest grades: 82.5

```php
kontrol11.php > ...
1   <?php
2   $grades = [85, 92, 78, 64, 90, 75, 88, 79, 70, 96];
3
4   echo "Grades all : ";
5   foreach($grades as $gradeall){
6       echo "$gradeall  ";
7   }
8
9   $highest1 = $grades[0];
0   $highest2 = $grades[0];
1   $lowest1 = $grades[0];
2   $lowest2 = $grades[0];
3
4   foreach ($grades as $grade) {
5       if ($grade > $highest1) {
6           $highest1 = $grade;
7       }
8       if ($grade < $lowest1) {
9           $lowest1 = $grade;
0       }
1   }
2   foreach ($grades as $grade) {
3       if ($grade > $highest2 && $grade != $highest1) {
4           $highest2 = $grade;
5       }
6       if ($grade < $lowest2 && $grade != $lowest1) {
7           $lowest2 = $grade;
8       }
9   }
```

-Full code on github.

20. Create a file with the name kontrol2.php. Create the program code for step 23 and display the result below along with the program code (Question No. 20)

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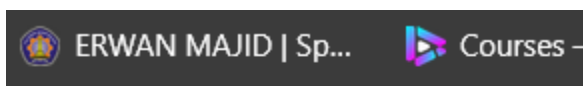
Original Price: Rp 120000
This product get Discount: 20%
Price after discount: Rp 96000

```php
kontrol12.php > ...
1    <?php
2    $price = 120000;
3
4    $discountPercentage = 20;
5
6    if ($price > 100000) {
7
8        $discountAmount = ($discountPercentage / 100) * $price;
9
10       $finalPrice = $price - $discountAmount;
11
12       echo "Original Price: Rp " . $price . "<br>";
13       echo "This product get Discount: " . $discountPercentage . "%<br>";
14       echo "Price after discount: Rp " . $finalPrice . "<br>";
15   } else {
16       echo "No discount applied. Price to be paid: Rp " . $price . "<br>";
17   }
18   ?>
```

21. Create a file with the name kontrol3.php. Create the program code for step 25 show the result below along with the program code (Question No. 21)

Player's total score is: 520
Do players get additional rewards? YES

```php
kontrol13.php > ...
1    <?php
2    $points = 520;
3
4    echo "Player's total score is: " . $points . "<br>";
5
6    if ($points > 500) {
7        echo "Do players get additional rewards? YES";
8    } else {
9        echo "Do players get additional rewards? NO";
10   }
11   ?>
```

- **Practical Section 5: Using Arrays in PHP**
22. Note here what you observe from adding the code above. (Question No. 22)

Daftar nilai semua siswa : 85,92,78,64,90,55,88,79,70,96
Daftar nilai siswa yang lulus : 85, 92, 78, 90, 88, 79, 70, 96

$nilaiSiswa contains an array of student scores.

$nilaiLulus is an empty array that will store the scores of students who passed (scores >= 70).

The foreach loop goes through each score in $nilaiSiswa.

If the score is 70 or higher, it is added to the $nilaiLulus array using $nilaiLulus[] = $nilai;.

Display Passing Scores:

Finally, implode(', ', $nilaiLulus) converts the $nilaiLulus array into a comma-separated string, which is displayed using echo.

23. Note here what you observe from the addition of the code above. (Question No. 23)

Daftar semua karyawan:
Alice (pengalaman kerja 7 tahun)
Bob (pengalaman kerja 3 tahun)
Charlie (pengalaman kerja 9 tahun)
David (pengalaman kerja 5 tahun)
Eva (pengalaman kerja 6 tahun)

Daftar karyawan dengan pengalaman kerja lebih dari 5 tahun : Alice, Charlie, Eva

-$daftarKaryawan is a multidimensional array containing employee names and their years of experience

-The first foreach loop creates an array $employeeDetails, where each entry combines the employee's name and their experience in a formatted string (e.g., "Alice (pengalaman kerja 7 tahun)"

-The implode(' ', $employeeDetails) function joins all formatted strings with a space, and the result is displayed as a list of all employees.

-The second foreach loop checks each employee's experience. If it's greater than 5 years, the employee's name is added to the $karyawanPengalamanLimaTahun array.

-Finally, it uses implode(', ', $karyawanPengalamanLimaTahun) to create a comma-separated string of employees who have more than 5 years of experience and displays it.

24. Note here what you observe from the addition of the program code above. (Question No. 24)

> Daftar nilai mahasiswa dalam mata kuliah Fisika:
> Nama: Alice, Nilai : 90
> Nama: Bob, Nilai : 88
> Nama: Charlie, Nilai : 75

-array $daftarNilai containing student scores for three subjects: Matematika, Fisika, and Kimia. Each subject is an array of student names paired with their scores. It then sets the variable $mataKuliah to 'Fisika' and prints a header indicating the subject. A foreach loop iterates through the scores for 'Fisika', printing each student's name and score in a formatted manner. Overall, the code displays students' scores specifically for the subject 'Fisika'.

25. Create the code for step 13 with a two-dimensional array and display the result below along with the program code (Question No. 25)

> ERWAN MAJID | Sp...   Courses – Alphawor...   jawaban github   ChatGPT
>
> **All students:**
>
> Nama: Alice, Nilai: 85
> Nama: Bob, Nilai: 92
> Nama: Charlie, Nilai: 78
> Nama: David, Nilai: 64
> Nama: Eva, Nilai: 90
> ------------------------
> Class Average: 81.8
>
> **Students with grades above the class average:**
>
> Name: Alice, Grade: 85
> Name: Bob, Grade: 92
> Name: Eva, Grade: 90

```php
array25.php > ...
 1    <?php
 2        $students = [
 3            ['Alice', 85],
 4            ['Bob', 92],
 5            ['Charlie', 78],
 6            ['David', 64],
 7            ['Eva', 90],
 8        ];
 9        echo " <h2> All students: </h2>";
10        foreach ($students as $student) {
11        echo "Nama: {$student[0]}, Nilai: {$student[1]}<br>";
12        }
13        echo "------------------------ <br>";
14
15        $totalGrades = 0;
16        $numStudents = count(value: $students);
17
18        foreach ($students as $student) {
19            $totalGrades += $student[1];
20        }
21
22
23        $classAverage = $totalGrades / $numStudents;
24
25
26        echo "Class Average: $classAverage<br><br>";
27
28
29        echo " <h2> Students with grades above the class average:</h2>";
30        foreach ($students as $student) {
31            if ($student[1] > $classAverage) {
32                echo "Name: {$student[0]}, Grade: {$student[1]}<br>";
33            }
34        }
35    ?>
```

-first displays all students and their grades, then calculates the total grades and the class average by summing the grades and dividing by the number of students. After calculating the average, it prints the average value and then lists the students whose grades exceed this average.

For calculate total grades : foreach ($students as $student) {

    $totalGrades += $student[1];

  }

-$classAverage = $totalGrades / $numStudents;

-Calculates the total grades and the class average:

echo "Class Average: $classAverage

";

-Prints the class average:

```php
echo " <h2> Students with grades above the class average:</h2>";

foreach ($students as $student) {

    if ($student[1] > $classAverage) {

        echo "Name: {$student[0]}, Grade: {$student[1]}<br>";

    }

}
```