

SW-I

SISTEMAS WEB I

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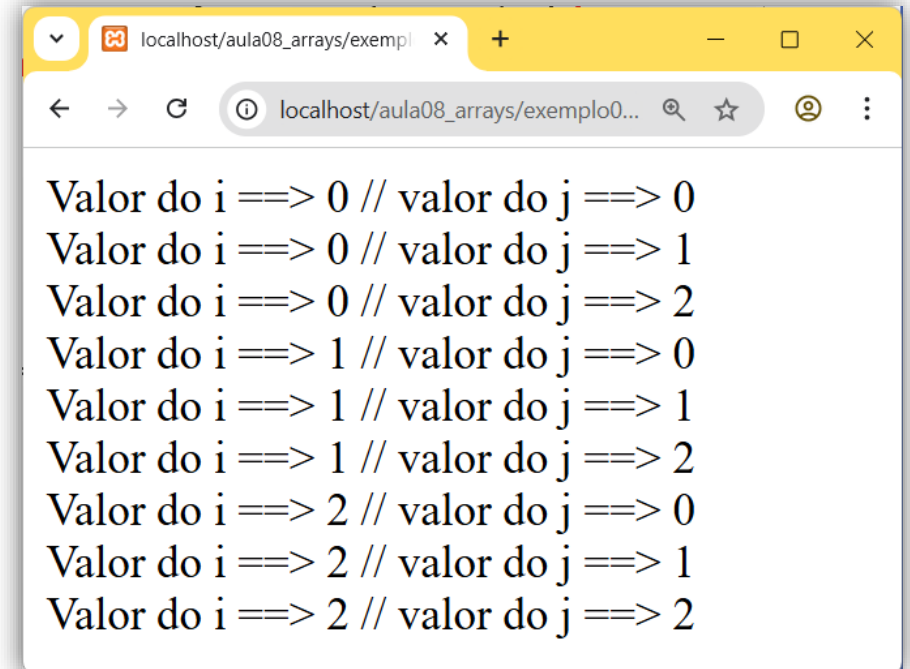
AULA 08-EXTRA – Laços de Repetição Aninhados

O que são laços de repetição aninhados?

Um laço aninhado é um laço dentro de outro laço. Isso significa que, **para cada repetição do laço externo, o laço interno será executado completamente.**

Exemplo:

```
for ($i = 0; $i < 3; $i++) {  
    for ($j = 0; $j < 3; $j++) {  
        // Código que será executado  
        echo "Valor do i ==> $i // valor do j ==> $j <br>";  
    }  
}
```

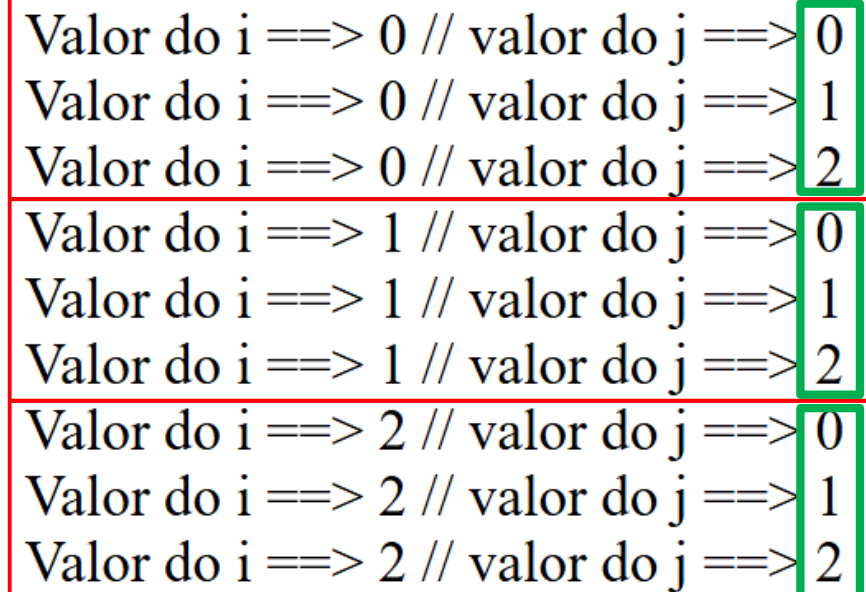


A screenshot of a web browser window with a yellow header. The address bar shows 'localhost/aula08_arrays/exemplo0...'. The main content area displays the output of the PHP code, showing 9 lines of text where each line represents one iteration of the nested loops, with the current values of i and j.

```
Valor do i ==> 0 // valor do j ==> 0  
Valor do i ==> 0 // valor do j ==> 1  
Valor do i ==> 0 // valor do j ==> 2  
Valor do i ==> 1 // valor do j ==> 0  
Valor do i ==> 1 // valor do j ==> 1  
Valor do i ==> 1 // valor do j ==> 2  
Valor do i ==> 2 // valor do j ==> 0  
Valor do i ==> 2 // valor do j ==> 1  
Valor do i ==> 2 // valor do j ==> 2
```

O que são laços de repetição aninhados?

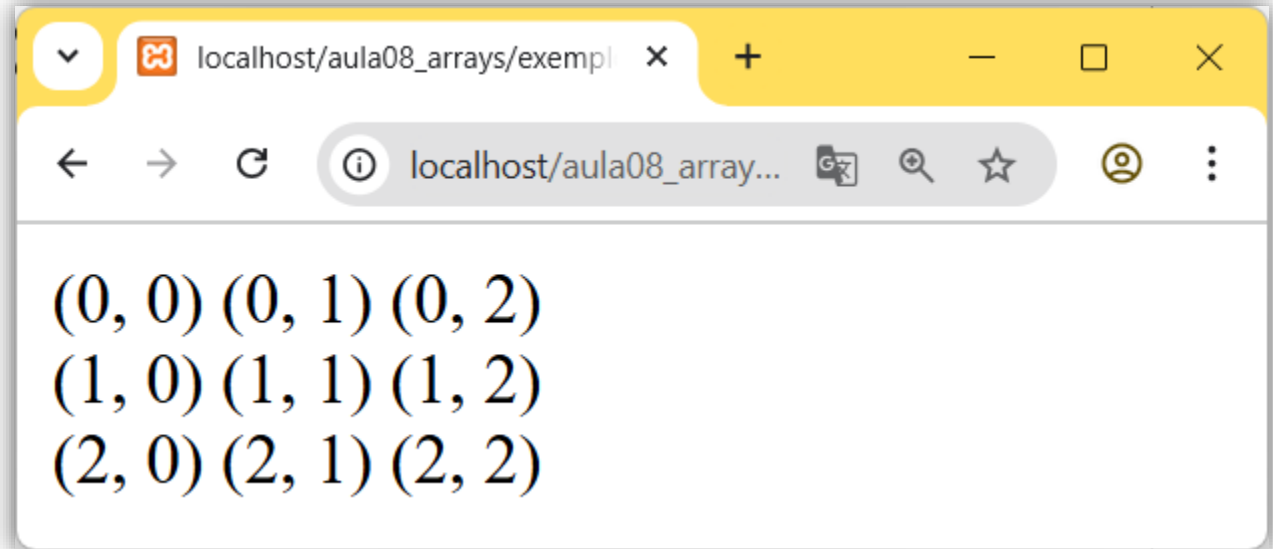
```
for ($i = 0; $i < 3; $i++) {  
    for ($j = 0; $j < 3; $j++) {  
        // Código que será executado  
        echo "Valor do i ==> $i // valor do j ==> $j <br>"  
    }  
}
```



Valor do i ==> 0 // valor do j ==> 0
Valor do i ==> 0 // valor do j ==> 1
Valor do i ==> 0 // valor do j ==> 2
Valor do i ==> 1 // valor do j ==> 0
Valor do i ==> 1 // valor do j ==> 1
Valor do i ==> 1 // valor do j ==> 2
Valor do i ==> 2 // valor do j ==> 0
Valor do i ==> 2 // valor do j ==> 1
Valor do i ==> 2 // valor do j ==> 2

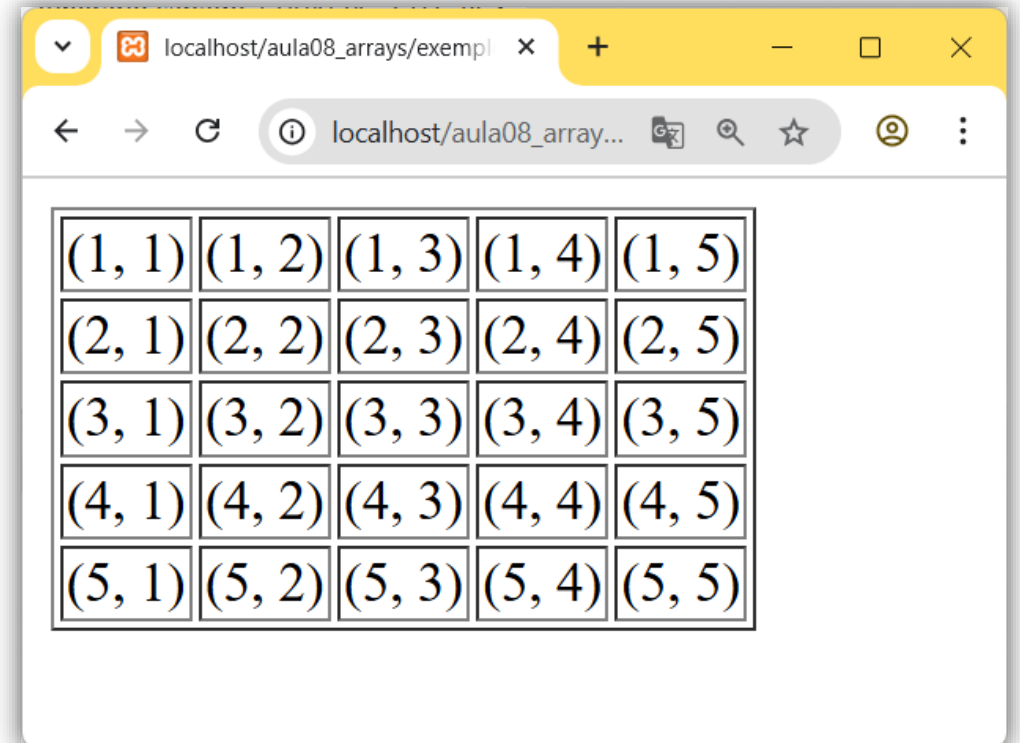
Exemplo 1: Imprimindo coordenadas (i, j)

```
for ($i = 0; $i < 3; $i++) {  
    for ($j = 0; $j < 3; $j++) {  
        echo "($i, $j) ";  
    }  
    echo "<br>";  
}
```



Exemplo 2: Criando uma tabela HTML 5x5 com for

```
echo "<table border='1'>";  
  for ($linha = 1; $linha <= 5; $linha++) {  
    echo "<tr>";  
    for ($coluna = 1; $coluna <= 5; $coluna++) {  
      echo "<td>($linha, $coluna)</td>";  
    }  
    echo "</tr>";  
  }  
echo "</table>";
```

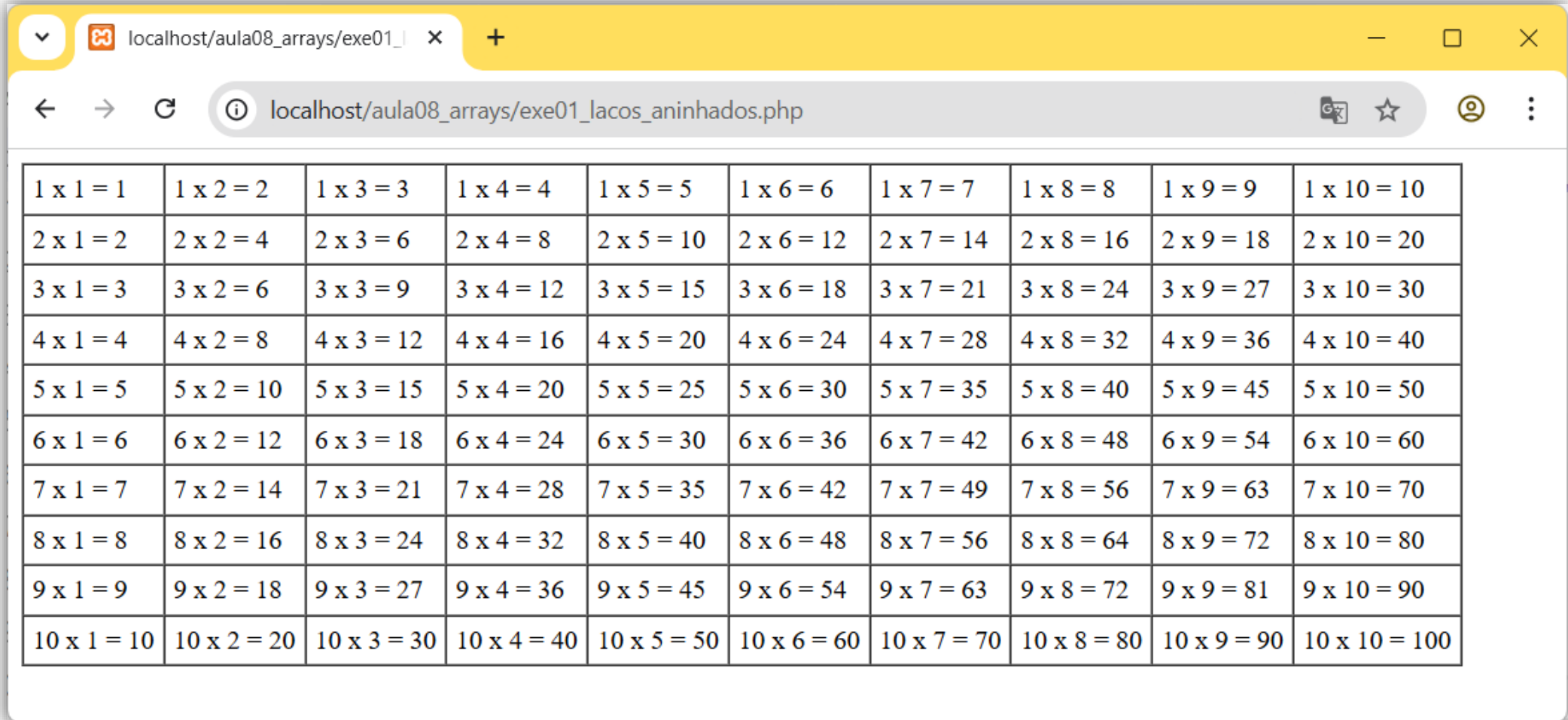


The screenshot shows a web browser window with the address bar displaying 'localhost/aula08_arrays/exempli'. The main content area displays a 5x5 table with a border. Each cell in the table contains a coordinate pair (row, column) in the format (row, column). The rows are numbered 1 to 5 from top to bottom, and the columns are numbered 1 to 5 from left to right.

(1, 1)	(1, 2)	(1, 3)	(1, 4)	(1, 5)
(2, 1)	(2, 2)	(2, 3)	(2, 4)	(2, 5)
(3, 1)	(3, 2)	(3, 3)	(3, 4)	(3, 5)
(4, 1)	(4, 2)	(4, 3)	(4, 4)	(4, 5)
(5, 1)	(5, 2)	(5, 3)	(5, 4)	(5, 5)

Exercícios

1. Crie uma tabela 10x10 com a tabuada de 1 a 10.



A screenshot of a web browser window displaying a 10x10 multiplication table. The browser's address bar shows the URL `localhost/aula08_arrays/exe01_lacos_aninhados.php`. The table contains multiplication results for numbers 1 through 10, arranged in 10 rows and 10 columns.

1 x 1 = 1	1 x 2 = 2	1 x 3 = 3	1 x 4 = 4	1 x 5 = 5	1 x 6 = 6	1 x 7 = 7	1 x 8 = 8	1 x 9 = 9	1 x 10 = 10
2 x 1 = 2	2 x 2 = 4	2 x 3 = 6	2 x 4 = 8	2 x 5 = 10	2 x 6 = 12	2 x 7 = 14	2 x 8 = 16	2 x 9 = 18	2 x 10 = 20
3 x 1 = 3	3 x 2 = 6	3 x 3 = 9	3 x 4 = 12	3 x 5 = 15	3 x 6 = 18	3 x 7 = 21	3 x 8 = 24	3 x 9 = 27	3 x 10 = 30
4 x 1 = 4	4 x 2 = 8	4 x 3 = 12	4 x 4 = 16	4 x 5 = 20	4 x 6 = 24	4 x 7 = 28	4 x 8 = 32	4 x 9 = 36	4 x 10 = 40
5 x 1 = 5	5 x 2 = 10	5 x 3 = 15	5 x 4 = 20	5 x 5 = 25	5 x 6 = 30	5 x 7 = 35	5 x 8 = 40	5 x 9 = 45	5 x 10 = 50
6 x 1 = 6	6 x 2 = 12	6 x 3 = 18	6 x 4 = 24	6 x 5 = 30	6 x 6 = 36	6 x 7 = 42	6 x 8 = 48	6 x 9 = 54	6 x 10 = 60
7 x 1 = 7	7 x 2 = 14	7 x 3 = 21	7 x 4 = 28	7 x 5 = 35	7 x 6 = 42	7 x 7 = 49	7 x 8 = 56	7 x 9 = 63	7 x 10 = 70
8 x 1 = 8	8 x 2 = 16	8 x 3 = 24	8 x 4 = 32	8 x 5 = 40	8 x 6 = 48	8 x 7 = 56	8 x 8 = 64	8 x 9 = 72	8 x 10 = 80
9 x 1 = 9	9 x 2 = 18	9 x 3 = 27	9 x 4 = 36	9 x 5 = 45	9 x 6 = 54	9 x 7 = 63	9 x 8 = 72	9 x 9 = 81	9 x 10 = 90
10 x 1 = 10	10 x 2 = 20	10 x 3 = 30	10 x 4 = 40	10 x 5 = 50	10 x 6 = 60	10 x 7 = 70	10 x 8 = 80	10 x 9 = 90	10 x 10 = 100

Exercícios

1. Monte um jogo da velha usando loops para desenhar o **grid HTML**.

