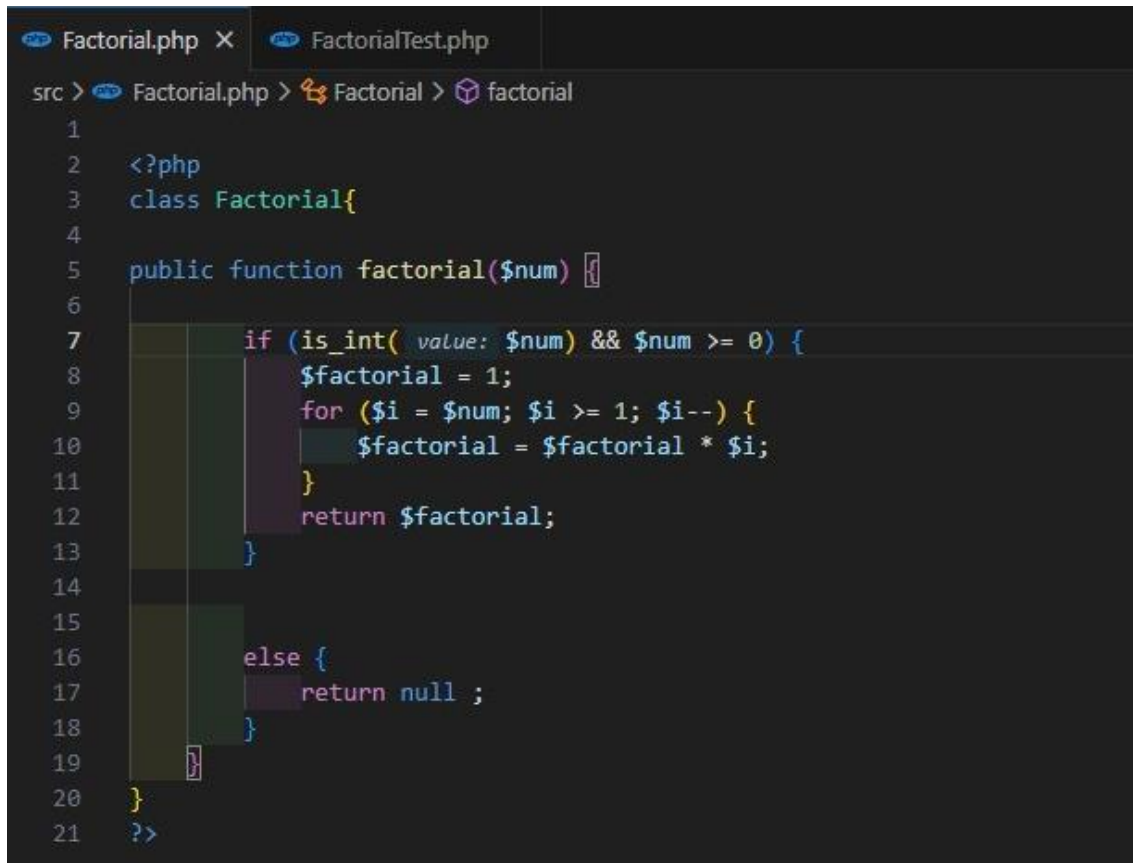# PhpUnit Framework

## Install phpunit using command

>> composer require --dev phpunit/phpunit

>> ./vendor/bin/phpunit --migrate-configuration

## Creat Src Folder

**Put main file inside it**

➔ **Factorial.php**

```php
<?php
class Factorial{

public function factorial($num) {

        if (is_int( value: $num) && $num >= 0) {
            $factorial = 1;
            for ($i = $num; $i >= 1; $i--) {
                $factorial = $factorial * $i;
            }
            return $factorial;
        }

        else {
            return null ;
        }
    }
}
?>
```

## Create tests folder

## Put test file with same name of main file +'Test'

➔ **FactorialTest.php**

```php
<?php
require './src/Factorial.php';
use PHPUnit\Framework\TestCase;
class FactorialTest extends  TestCase{
    public function testFactorial()
    {
        $fact=new Factorial();
        $this->assertEquals( expected: 1    ,  actual: $fact->factorial( num: 0));
        $this->assertEquals( expected: 1    ,  actual: $fact->factorial( num: 1));
        $this->assertEquals( expected: 120  ,  actual: $fact->factorial( num: 5));
        $this->assertEquals( expected: null ,  actual: $fact->factorial( num: -3));
        $this->assertEquals( expected: null ,  actual: $fact->factorial( num: 1.5));
        $this->assertEquals( expected: null ,  actual: $fact->factorial( num: 1.5));
        $this->assertEquals( expected: false,  actual: $fact->factorial( num: false));
        $this->assertEquals( expected: null ,  actual: $fact->factorial( num: 'abc'));
    }
}
?>
```

## Run Test File ....

>> **./vendor/bin/phpunit**    **tests/FactorialTest.php**

```
PS C:\XAMP\htdocs\Phpunit-Lab>
PS C:\XAMP\htdocs\Phpunit-Lab>  ./vendor/bin/phpunit tests/FactorialTest.php

PHPUnit 10.0.5 by Sebastian Bergmann and contributors.

Runtime:       PHP 8.2.0
Configuration: C:\XAMP\htdocs\Phpunit-Lab\phpunit.xml

.                                                                  1 / 1 (100%)

Time: 00:04.830, Memory: 6.00 MB

OK (1 test, 8 assertions)
PS C:\XAMP\htdocs\Phpunit-Lab>
```