

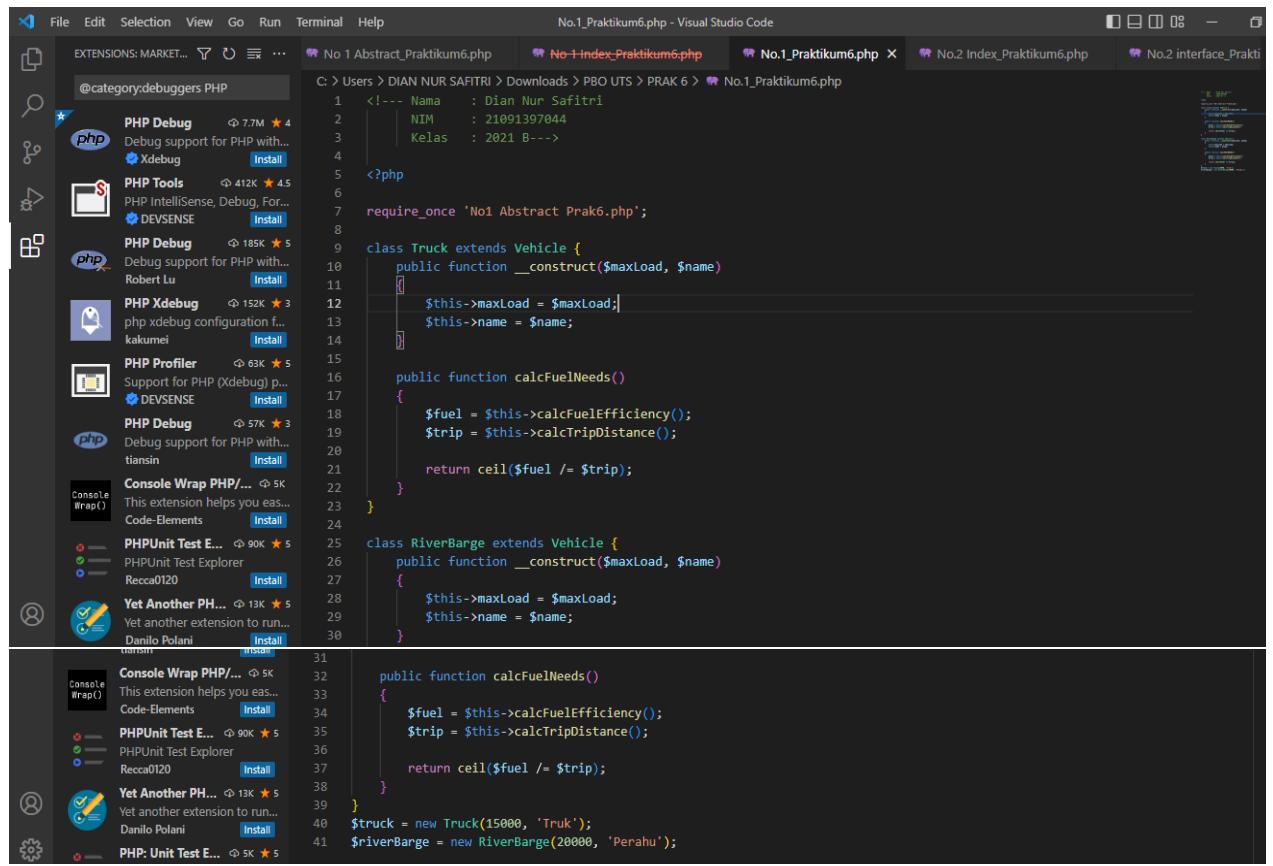
**LAPORAN PRAKTIKUM 6**  
**Mata Kuliah**  
**“Pemograman Berorientasi Obyek”**



**Disusun Oleh :**  
**Dian Nur Safitri**  
**21091397044\_2021B**

**PROGRAM STUDI D4 MANAJEMEN INFORMATIKA**  
**FAKULTAS VOKASI**  
**UNIVERSITAS NEGERI SURABAYA**

## 1. Source Code PHP



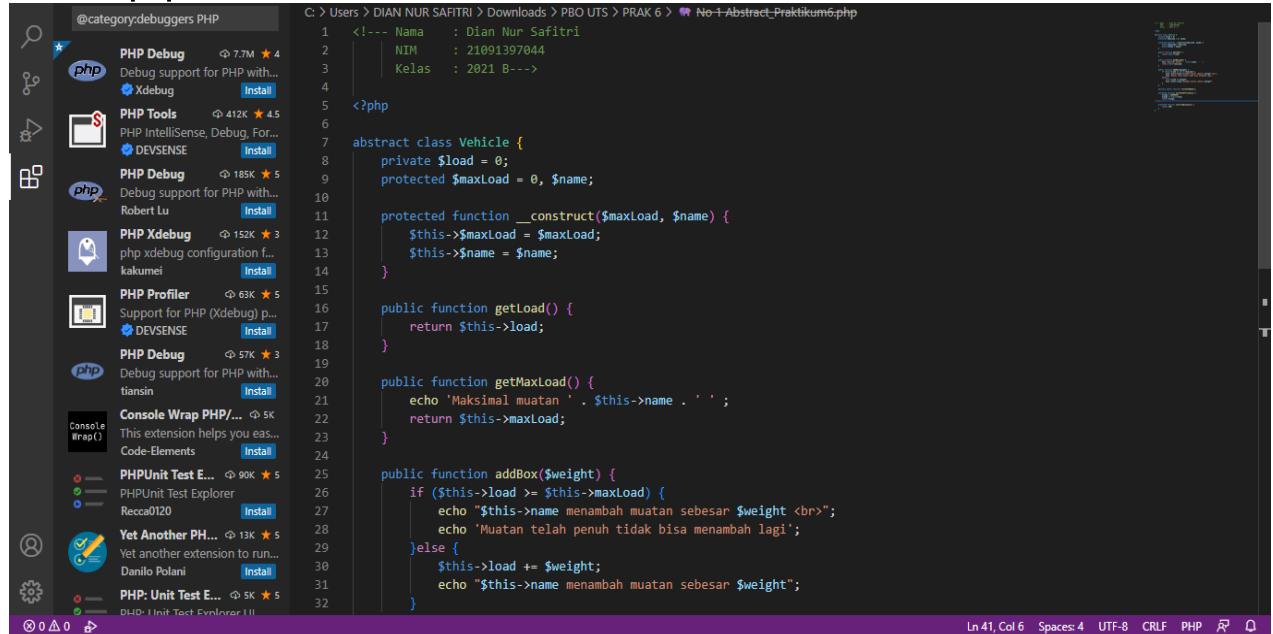
The screenshot shows the Visual Studio Code interface with several tabs open, all displaying PHP code related to vehicle classes. The tabs include:

- No 1 Abstract\_Praktikum6.php
- No 1+Index\_Praktikum6.php
- No 1\_Praktikum6.php
- No 2 Index\_Praktikum6.php
- No 2 interface\_Praktikum6.php

The main editor area contains the following PHP code:

```
1 <!-- Nama : Dian Nur Safitri
2 NIM : 21091397044
3 Kelas : 2021 B-->
4
5 <?php
6
7 require_once 'No1 Abstract Prak6.php';
8
9 class Truck extends Vehicle {
10     public function __construct($maxLoad, $name)
11     {
12         $this->maxLoad = $maxLoad;
13         $this->name = $name;
14     }
15
16     public function calcFuelNeeds()
17     {
18         $fuel = $this->calcFuelEfficiency();
19         $trip = $this->calcTripDistance();
20
21         return ceil($fuel / $trip);
22     }
23 }
24
25 class RiverBarge extends Vehicle {
26     public function __construct($maxLoad, $name)
27     {
28         $this->maxLoad = $maxLoad;
29         $this->name = $name;
30     }
31
32     public function calcFuelNeeds()
33     {
34         $fuel = $this->calcFuelEfficiency();
35         $trip = $this->calcTripDistance();
36
37         return ceil($fuel / $trip);
38     }
39 }
40
41 $truck = new Truck(15000, 'Truk');
42 $riverBarge = new RiverBarge(20000, 'Perahu');
```

## Abstrak php



The screenshot shows the Visual Studio Code interface with multiple tabs open, all displaying PHP code related to vehicle classes. The tabs include:

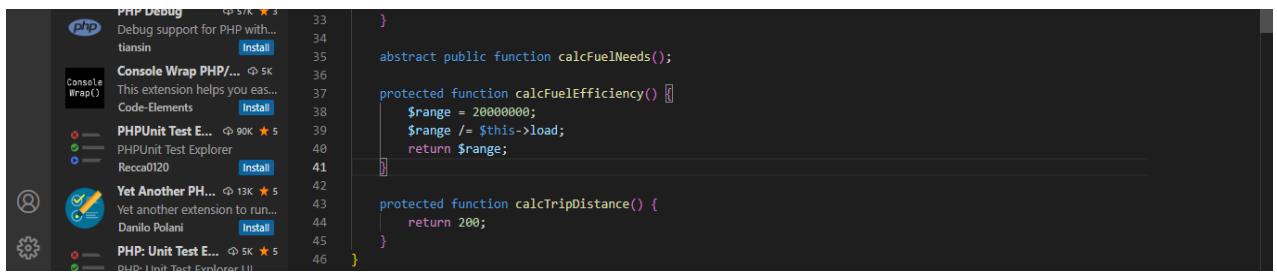
- C: > Users > DIAN NUR SAFITRI > Downloads > PBO UTS > PRAK 6 > No+Abstract\_Praktikum6.php
- No 1 Abstract\_Praktikum6.php
- No 1+Index\_Praktikum6.php
- No 1\_Praktikum6.php
- No 2 Index\_Praktikum6.php
- No 2 interface\_Praktikum6.php

The main editor area contains the following PHP code:

```
1 <!-- Nama : Dian Nur Safitri
2 NIM : 21091397044
3 Kelas : 2021 B-->
4
5 <?php
6
7 abstract class Vehicle {
8     private $load = 0;
9     protected $maxLoad = 0, $name;
10
11     protected function __construct($maxLoad, $name) {
12         $this->maxLoad = $maxLoad;
13         $this->$name = $name;
14     }
15
16     public function getLoad() {
17         return $this->load;
18     }
19
20     public function getMaxLoad() {
21         echo 'Maksimal muatan ' . $this->name . ' ';
22         return $this->maxLoad;
23     }
24
25     public function addBox($weight) {
26         if ($this->load > $this->maxLoad) {
27             echo "$this->name menambah muatan sebesar $weight <br>";
28             echo 'Muatan telah penuh tidak bisa menambah lagi';
29         } else {
30             $this->load += $weight;
31             echo "$this->name menambah muatan sebesar $weight";
32         }
33     }
34 }
```



Edit with WPS Office



The screenshot shows the Visual Studio Code extension marketplace. On the left, there is a sidebar with several icons: a magnifying glass for search, a gear for settings, and three other icons. The main area displays a list of PHP-related extensions:

- PHP Debug** by tiansin (57K installs): Debug support for PHP with...  
Code-Elements [Install](#)
- Console Wrap PHP/E...** by Code-Elements (5K installs): This extension helps you eas...  
Install
- PHPUnit Test E...** by Recco0120 (90K installs): PHPUnit Test Explorer  
Danilo Polani [Install](#)
- Yet Another PH...** by Danilo Polani (13K installs): Yet another extension to run...  
Install
- PHP: Unit Test E...** by Recco0120 (5K installs): PHP: Unit Test Explorer UI  
Install

On the right, a code editor window is open, showing the following PHP code:

```
33 }  
34  
35 abstract public function calcFuelNeeds();  
36  
37 protected function calcFuelEfficiency() {  
38     $range = 20000000;  
39     $range /= $this->load;  
40     return $range;  
41 }  
42  
43 protected function calcTripDistance() {  
44     return 200;  
45 }  
46 }
```



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## Index.php

```
No-1-Abstract_Praktikum6.php No-1-Index_Praktikum6.php No.1_Praktikum6.php No.2_Index_Praktikum6.php No.2.interface_Prak
C: > Users > DIAN NUR SAFITRI > Downloads > PBO UTS > PRAK 6 > No-1-Index_Praktikum6.php
1 - Nama : Dian Nur Safitri
2 NIM : 21091307044
3 Kelas : 2021 B-->
4
5 p
6 require_once 'No1_Prak6.php';
7
8
9 CTYPE html
10 l lang="id">
11
12 d>
13 <!-- Bootstrap CSS -->
14 <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet"
15 integrity="sha384-E7wDc7tRdFfpW7ZUqfOw7XQGfZyJHmEo+XkZuJLXuJZLjXnqJZzXeZgIw" crossorigin="anonymous">
16
17 <title>PBO Praktikum 6</title>
18 ad>
19
20 y>
21 <div class="container">
22 <br>
23 <h2 class="text-center">PBO - Praktikum 6</h2>
24 <div class="row">
25 <div class="col-5 mx-auto border p-3 mt-2">
26 <h4 class="text-center"><strong>Soal 1</strong></h4>
27 <br><br>
28 <b><?= $truck->getMaxLoad() . ' kg'; ?> <br><b>
29 <br>
30 <?= $truck->addBox(7000) . ' kg'; ?> <br>
31 <?= $truck->addBox(8000) . ' kg'; ?> <br>
32 <?= $truck->addBox(9000) . ' kg'; ?> <br>
33
34 <?php
35 echo "Jadi, Butuh Bahan Bakar sebanyak " . $truck->calcFuelNeeds() . ' Liter'. '<br>';
36 ?>
37 <br>
38 <br>
39 <b><?= $riverBarge->getMaxLoad() . ' kg'; ?> <br><b>
40 <br>
41 <?= $riverBarge->addBox(2000) . ' kg'; ?> <br>
42 <?= $riverBarge->addBox(5000) . ' kg'; ?> <br>
43 <?= $riverBarge->addBox(6000) . ' kg'; ?> <br>
44
45 <?php
46 echo "Jadi, Butuh Bahan Bakar sebanyak " . $riverBarge->calcFuelNeeds() . ' Liter';
47 ?>
48 </div>
49 </div>
50 </div>
51 </div>
52 </div>
53 dy>
54
55 m1>
```

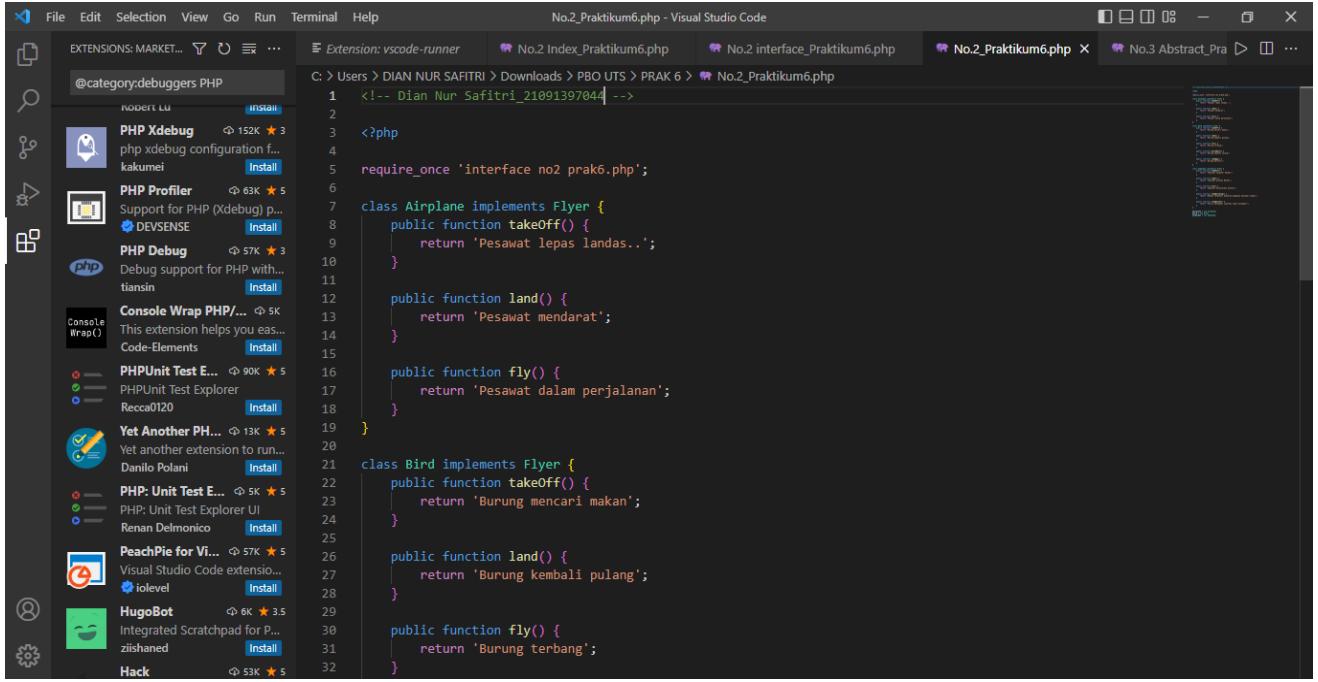
## Penjelasan

- Analisa diatas terdapat pada abstract class vehicle, methode calfuelneeds yang digunakan untuk menghitung bahan bakar yang di gunakan.
- Abstract yang diletakkan pada class vehicle merupakan sebagai parent class dan diakses oleh sebuah child classnya yaitu class truck dan class riverbarge
- Class truck dan Class riverbarge yang akan menampilkan nilai yang dihasilkan dari pembagian 2method yaitu calfuelficiency dan caltripdistance.



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## 2. Source Code PHP

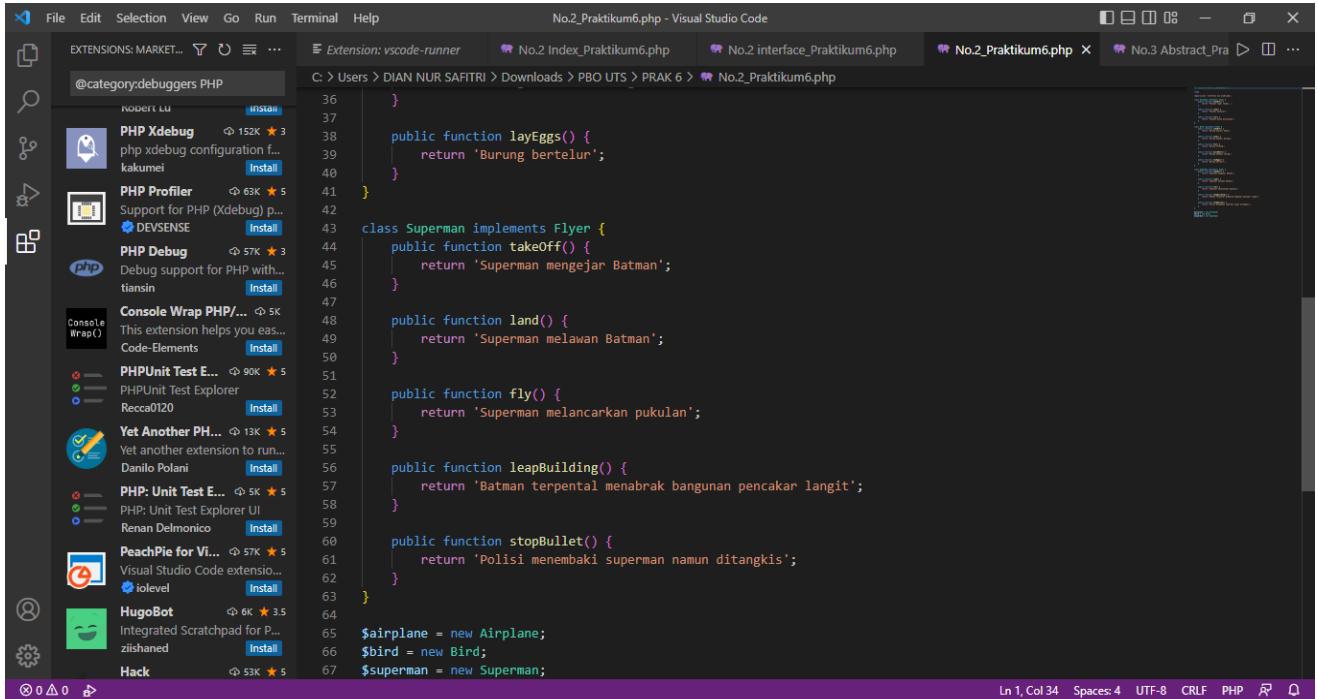


File Edit Selection View Go Run Terminal Help

No.2\_Praktikum6.php - Visual Studio Code

EXTENSIONS: MARKET... @category:debuggers PHP

```
1 <!-- Dian Nur Safitri_21091397044 -->
2
3 <?php
4
5 require_once 'interface no2 prak6.php';
6
7 class Airplane implements Flyer {
8     public function takeOff() {
9         return 'Pesawat lepas landas..';
10    }
11
12    public function land() {
13        return 'Pesawat mendarat';
14    }
15
16    public function fly() {
17        return 'Pesawat dalam perjalanan';
18    }
19 }
20
21 class Bird implements Flyer {
22     public function takeOff() {
23         return 'Burung mencari makan';
24     }
25
26     public function land() {
27         return 'Burung kembali pulang';
28     }
29
30     public function fly() {
31         return 'Burung terbang';
32     }
33 }
```



File Edit Selection View Go Run Terminal Help

No.2\_Praktikum6.php - Visual Studio Code

EXTENSIONS: MARKET... @category:debuggers PHP

```
36
37
38     public function layEggs() {
39         return 'Burung bertelur';
40     }
41
42 class Superman implements Flyer {
43     public function takeOff() {
44         return 'Superman mengejar Batman';
45     }
46
47     public function land() {
48         return 'Superman melawan Batman';
49     }
50
51     public function fly() {
52         return 'Superman melancarkan pukulan';
53     }
54
55     public function leapBuilding() {
56         return 'Batman terpental menabrak bangunan pencakar langit';
57     }
58
59     public function stopBullet() {
60         return 'Polisi menembaki superman namun ditangkis';
61     }
62
63 }
64
65 $airplane = new Airplane;
66 $bird = new Bird;
67 $superman = new Superman;
```



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## Interface php

```
1 <!-- Dian Nur Safitri_21091397044 -->
2
3 <?php
4
5 interface Flyer {
6     public function takeOff();
7     public function land();
8     public function fly();
9 }
10
11 interface Sailer {
12     public function dock();
13     public function cruise();
14 }
```

## Index php

```
1 <!-- Dian Nur Safitri_21091397044 -->
2
3 <?php
4     require_once 'no_2_prak6.php';
5 ?>
6
7 <!DOCTYPE html>
8 <html lang="en">
9
10 <head>
11     <!-- Bootstrap CSS -->
12     <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet"
13         integrity="sha384-EkmaniaWqQzYHfjTAU6auU8tT94WhftjDbrCEXUS1oBoqy12QvZ6jIW3" crossorigin="anonymous">
14
15     <title>Praktikum 6</title>
16 </head>
17
18 <body>
19     <div class="container">
20         <br>
21         <div class="row">
22             <div class="col-5 mx-auto border p-3 mt-2">
23                 <h4 class="text-center"><strong><u>Soal 2</u></strong></h4>
24                 <br><br>
25                 <b><?php
26                     echo "Superman";
27                 ?></b> <br>
28                 <?= $superman->land(); ?> <br>
29                 <?= $superman->takeOff(); ?> <br>
30                 <?= $superman->fly(); ?> <br>
31             </div>
32         </div>
33     </div>
34
35     <b><?php
36         echo "Bird";
37     ?></b> <br>
38     <?= $bird->buildNest(); ?> <br>
39     <?= $bird->takeOff(); ?> <br>
40     <?= $bird->fly(); ?> <br>
41     <?= $bird->land(); ?> <br>
42     <?= $bird->layEggs(); ?> <br>
43     <br>
44     <b><?php
45         echo "Airplane";
46     ?></b> <br>
47     <?= $airplane->takeOff(); ?> <br>
48     <?= $airplane->fly(); ?> <br>
49     <?= $airplane->land(); ?> <br>
50     </div>
51     </div>
52     </body>
53
54 </html>
```

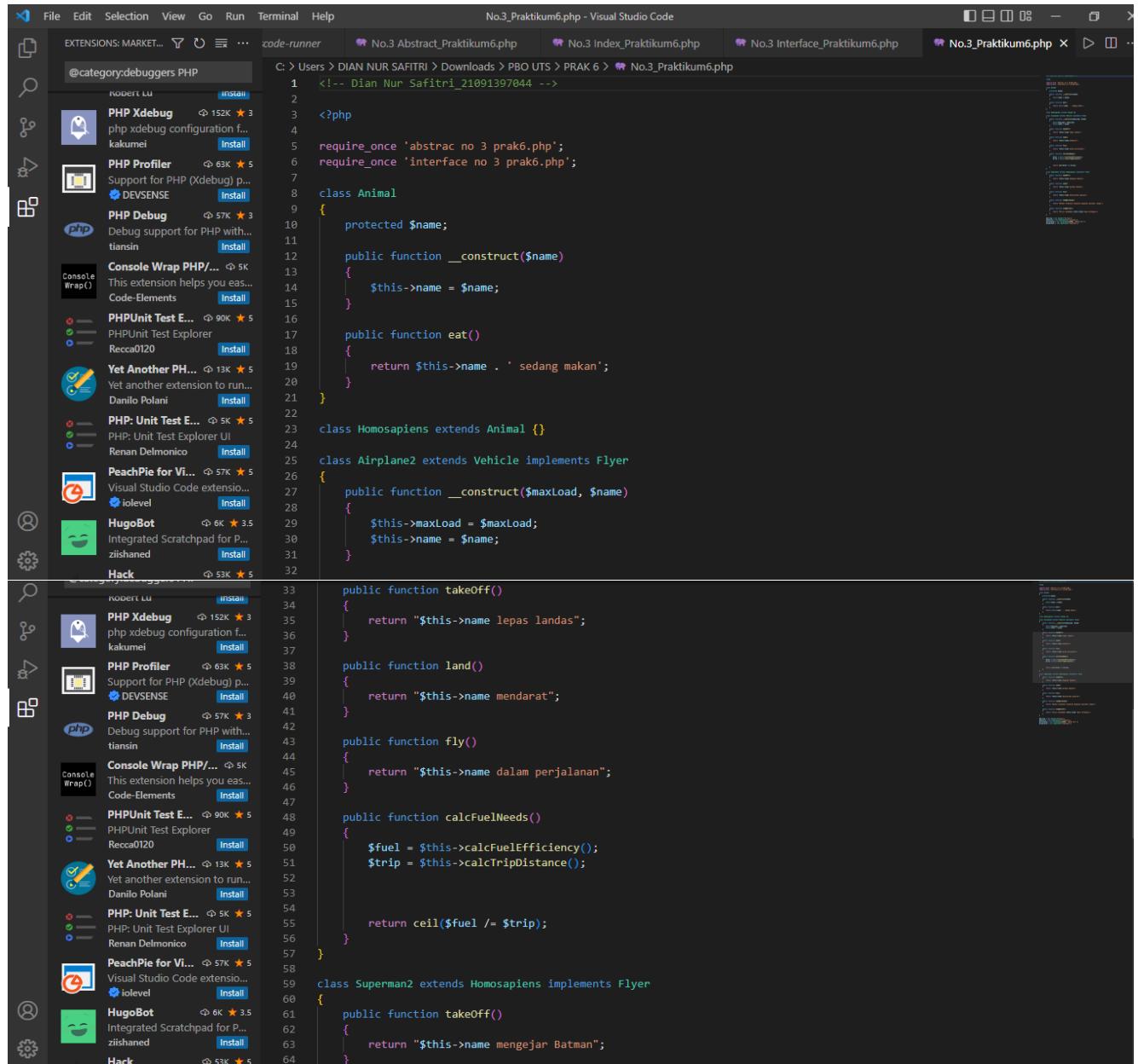
```
31     <?= $superman->leapBuilding(); ?> <br>
32     <?= $superman->stopBullet(); ?> <br>
33     <br>
34     <b><?php
35         echo "Bird";
36     ?></b> <br>
37     <?= $bird->buildNest(); ?> <br>
38     <?= $bird->takeOff(); ?> <br>
39     <?= $bird->fly(); ?> <br>
40     <?= $bird->land(); ?> <br>
41     <?= $bird->layEggs(); ?> <br>
42     <br>
43     <b><?php
44         echo "Airplane";
45     ?></b> <br>
46     <?= $airplane->takeOff(); ?> <br>
47     <?= $airplane->fly(); ?> <br>
48     <?= $airplane->land(); ?> <br>
49     </div>
50     </div>
51     </body>
52
53 </html>
```

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## Penjelasan :

- Implementasi yang terdapat pada nomer 2 tersebut ialah implementasi polymorphism dengan system penggunaan interface flyer sehingga semua class yang diimplementasi dari interface flyer harus memiliki method takeoff, land dan fly.

### 3. Source Code PHP



The screenshot shows a Visual Studio Code interface with the following details:

- File Explorer:** On the left, it displays a list of PHP extensions available in the Marketplace, including "PHP Xdebug", "PHP Profiler", "PHP Debug", "Console Wrap PHP", "PHPUnit Test E...", "Yet Another PH...", "PHP: Unit Test E...", "PeachPie for Vi...", "HugoBot", and "Hack".
- Code Editor:** The main editor area contains PHP code for several classes:
  - Animal:** A base class with protected properties \$name and a constructor \_\_construct(\$name). It has a public function eat() which returns a string indicating the animal is eating.
  - Homosapiens:** A class that extends Animal.
  - Airplane2:** A class that implements the Flyer interface. It has a constructor \_\_construct(\$maxLoad, \$name), a takeOff() method (returning the name taking off), a land() method (returning the name landing), a fly() method (returning the name flying), and a calcFuelNeeds() method which calculates fuel based on max load and trip distance.
  - Superman2:** A class that extends Homosapiens and implements Flyer. It has a takeOff() method returning the name taking off.
- Terminal:** A terminal window at the bottom shows the command "No.3\_Praktikum6.php - Visual Studio Code".
- Status Bar:** The status bar at the bottom indicates the file path: "C: > Users > DIAN NUR SAFITRI > Downloads > PBO UTS > PRAK 6 > No.3\_Praktikum6.php".



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```

public function land()
{
    return "$this->name melawan Batman";
}

public function fly()
{
    return "$this->name melancarkan pukulan";
}

public function leapBuilding()
{
    return "Batman terpental menabrak bangunan pencakar langit";
}

public function stopBullet()
{
    return "Polisi menembaki $this->name namun ditangkis";
}

$burung = new Animal('Burung');
$manusia = new Homosapiens('Aransha');
$airplane2 = new Airplane2(25000, 'Batik Air');
$superman2 = new Superman2('Superman');

```

## Abstract php

```

<?php

abstract class Vehicle {
    private $load = 0;
    protected $maxLoad = 0, $name;

    protected function __construct($maxLoad, $name) {
        $this->$maxLoad = $maxLoad;
        $this->$name = $name;
    }

    public function getLoad() {
        return $this->load;
    }

    public function getMaxLoad() {
        echo 'Maksimal muatan ' . $this->name . ' ';
        return $this->maxLoad;
    }

    public function addBox($weight) {
        if ($this->load >= $this->maxLoad) {
            echo $this->name menambah muatan sebesar $weight <br>;
            echo 'Muatan telah penuh tidak bisa menambah lagi';
        }else {
            $this->load += $weight;
            echo $this->name menambah muatan sebesar $weight;
        }
    }
}

```

```

abstract public function calcFuelNeeds();

protected function calcFuelEfficiency() {
    $range = 9000000;
    $range /= $this->load;
    return $range;
}

protected function calcTripDistance() {
    return $range;
}

```

In 42, Col 17 Spaces: 4 UTF-8 CRLF PHP



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## Index.php

```
C:\> Users > DIAN NUR SAFITRI > Downloads > PBO UTS > PRAK 6 > No.3 Index_Praktikum6.php - Visual Studio Code
1 <!-- Dian Nur Safitri_21091397044 -->
2
3 <?php
4 | require_once 'no_3_prak6.php';
5 ?
6
7 <!DOCTYPE html>
8 <html lang="id">
9
10 <head>
11 |     <!-- Bootstrap CSS -->
12 |     <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">
13 |         integrity="sha384-1BmE4kWBg78iYhFlvKuhfTAU6au8tT94WlrHftjDbrCEXSU1oBoqyl2QvZ6jIW3" crossorigin="anonymous">
14
15 <title>Praktikum 6</title>
16 </head>
17 <body>
18     <div class="container">
19         <div class="row">
20             <div class="col-5 mx-auto border p-3 mt-2">
21                 <h4 class="text-center"><strong>Soal 3</strong></h4>
22                 <br><br>
23                 <?= $burung->eat(); ?> <br>
24                 <?= $manusia->eat(); ?> <br>
25                 <br>
26                 <b><?= $airplane2->getMaxLoad() . ' kg'; ?> <br></b>
27                 <?= $airplane2->addBox(2000) . ' kg'; ?> <br>
28                 <?= $airplane2->addBox(4000) . ' kg'; ?> <br>
29                 <?= $airplane2->addBox(7000) . ' kg'; ?> <br>
30                 <?= $airplane2->addBox(9000) . ' kg'; ?> <br>
31                 <?= $airplane2->takeOff(); ?> <br>
32             </div>
33         </div>
34     </div>
35     <?= $airplane2->fly(); ?> <br>
36     <?= $airplane2->land(); ?> <br>
37
38     <?php
39         echo "Jadi, Butuh Bahan Bakar sebanyak " . $airplane2->calcFuelNeeds() . ' Liter'. <br>
40     ?>
41     <br>
42     <?= $superman2->eat(); ?> <br>
43     <?= $superman2->land(); ?> <br>
44     <?= $superman2->takeOff(); ?> <br>
45     <?= $superman2->fly(); ?> <br>
46     <?= $superman2->leapBuilding(); ?> <br>
47     <?= $superman2->stopBullet(); ?> <br>
48
49     </div>
50
51 </body>
52
53 </html>
```

```
C:\> Users > DIAN NUR SAFITRI > Downloads > PBO UTS > PRAK 6 > No.3 Interface_Praktikum6.php - Visual Studio Code
1 <!-- Dian Nur Safitri_21091397044 -->
2
3 <?php
4
5 interface Flyer {
6     public function takeOff();
7     public function land();
8     public function fly();
9 }
10
11 interface Sailer {
12     public function dock();
13     public function cruise();
14 }
```

## Interface.php

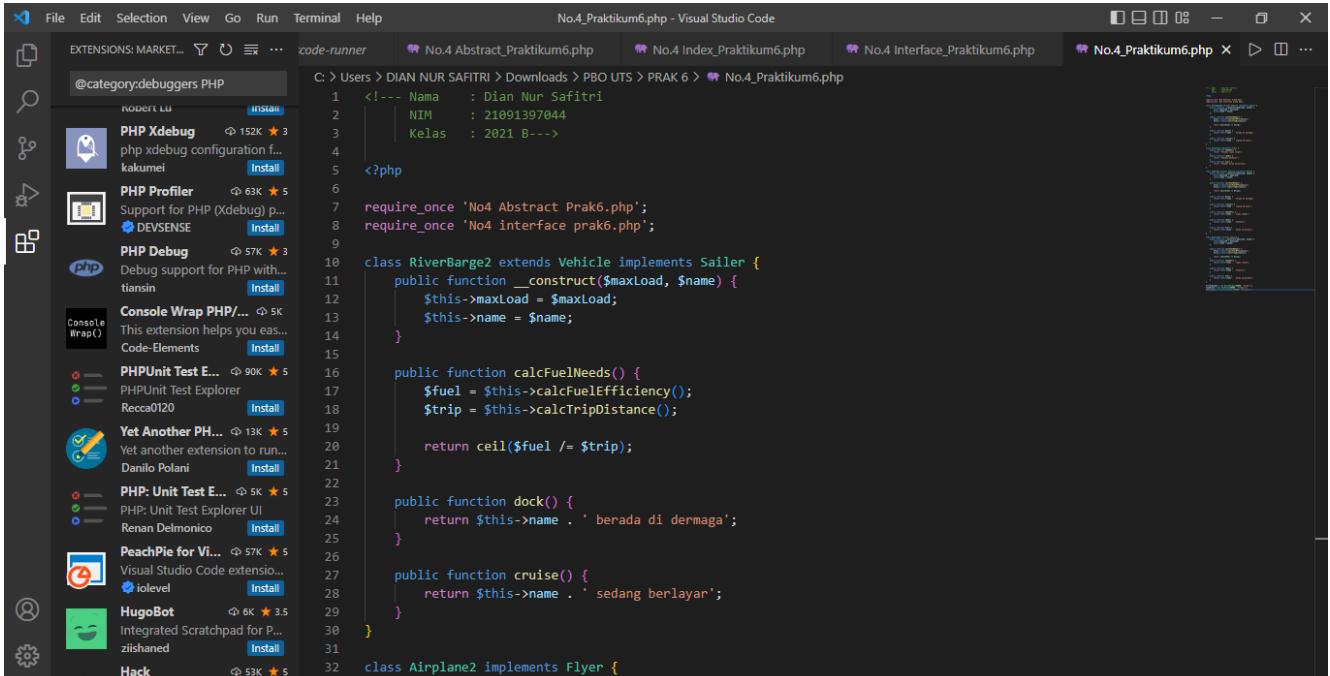
```
C:\> Users > DIAN NUR SAFITRI > Downloads > PBO UTS > PRAK 6 > No.3 Interface_Praktikum6.php - Visual Studio Code
1 <!-- Dian Nur Safitri_21091397044 -->
2
3 <?php
4
5 interface Flyer {
6     public function takeOff();
7     public function land();
8     public function fly();
9 }
10
11 interface Sailer {
12     public function dock();
13     public function cruise();
14 }
```

## Penjelasan :

- Penjelasan yang terdapat pada interface flyer dan abstract class vehicle. Merupakan class airplane yang mengimplementasikan dari interface flyer dan turunan dari vehicle sehingga class airplane harus juga memiliki method calcfuelneeds, takeoff, land dan fly. Class implementasi dimana yang terdapat flyer dan turunan dari animal sehingga memiliki method takeoff, land ,fly, dan eat. Dan class superman turunan dari homosapiens yang juga memiliki dari

animal, serta dimana implementasi dari interface flyer. Maka class superman memiliki method eat, takeoff, land,fly.

## 4. Source Code PHP



```
<!-- Name : Dian Nur Safitri
NIM : 21091397044
Kelas : 2021 B-->

<?php

require_once 'No4_Abstract_Prak6.php';
require_once 'No4_interface_prak6.php';

class RiverBarge2 extends Vehicle implements Sailer {
    public function __construct($maxLoad, $name) {
        $this->maxLoad = $maxLoad;
        $this->name = $name;
    }

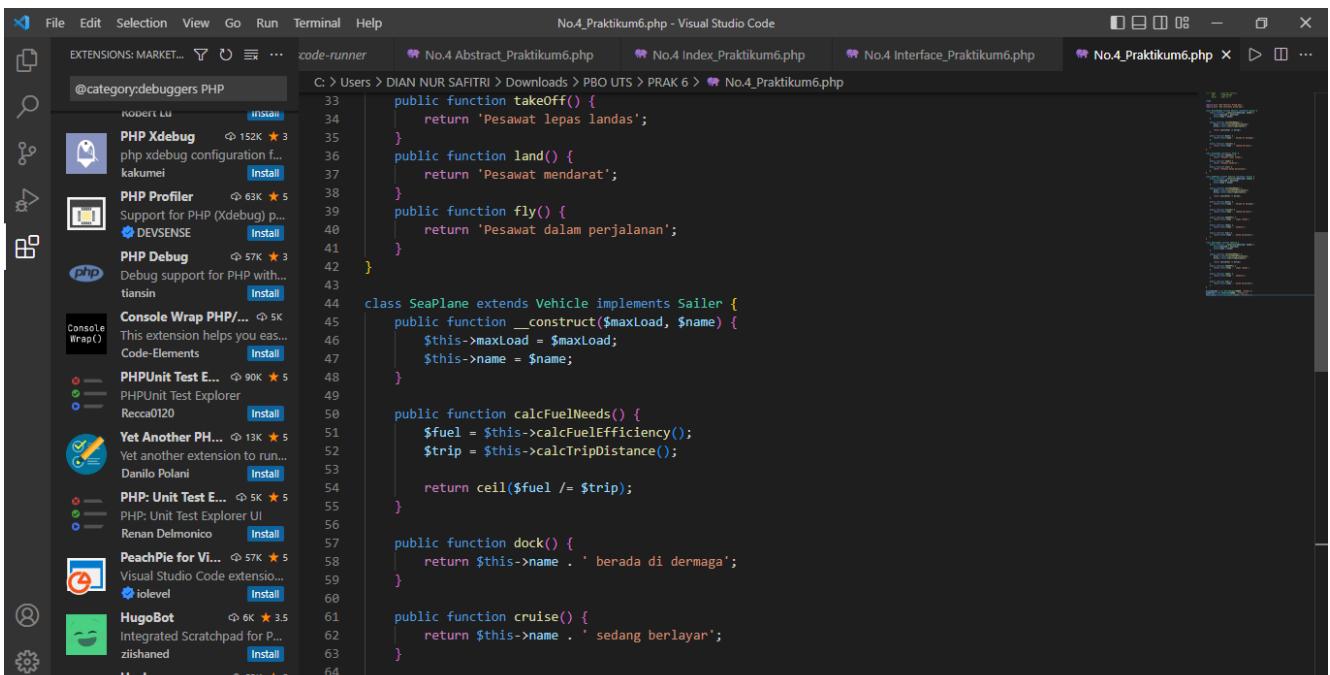
    public function calcFuelNeeds() {
        $fuel = $this->calcFuelEfficiency();
        $trip = $this->calcTripDistance();

        return ceil($fuel / $trip);
    }

    public function dock() {
        return $this->name . ' berada di dermaga';
    }

    public function cruise() {
        return $this->name . ' sedang berlayar';
    }
}

class Airplane2 implements Flyer {
```



```
public function takeOff() {
    return 'Pesawat lepas landas';
}

public function land() {
    return 'Pesawat mendarat';
}

public function fly() {
    return 'Pesawat dalam perjalanan';
}

class SeaPlane extends Vehicle implements Sailer {
    public function __construct($maxLoad, $name) {
        $this->maxLoad = $maxLoad;
        $this->name = $name;
    }

    public function calcFuelNeeds() {
        $fuel = $this->calcFuelEfficiency();
        $trip = $this->calcTripDistance();

        return ceil($fuel / $trip);
    }

    public function dock() {
        return $this->name . ' berada di dermaga';
    }

    public function cruise() {
        return $this->name . ' sedang berlayar';
    }
}
```



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## Abstract php

The screenshot shows a Visual Studio Code interface with the following details:

- File Explorer:** Shows extensions under the category "debuggers PHP".
  - PHP Xdebug**: 152K stars, description: "php xdebug configuration file", by kakumei, status: "Install".
  - PHP Profiler**: 63K stars, description: "Support for PHP (Xdebug) profiling", by DEVSENSE, status: "Install".
  - PHP Debug**: 57K stars, description: "Debug support for PHP with... tiansin", status: "Install".
  - Console Wrap PHP/E...**: 5K stars, description: "This extension helps you eas... Code-Elements", by Recca020, status: "Install".
  - PHPUnit Test E...**: 90K stars, description: "PHPUnit Test Explorer", by Danilo Polani, status: "Install".
  - PHP: Unit Test E...**: 5K stars, description: "PHP: Unit Test Explorer UI", by Renan Delmonico, status: "Install".
  - PeachPie for Vi...**: 57K stars, description: "Visual Studio Code extension for PeachPie", by iolevel, status: "Install".
  - HugoBot**: 6K stars, description: "Integrated Scratchpad for PHP", by zishaned, status: "Install".
  - Hack**: 53K stars, description: "Hack language support", by Berawan, status: "Install".
- Code Editor:** Displays the code for an abstract class `Vehicle`.

```
1 <!-- Nama : Dian Nur Safitri
2 NIM : 21091397044
3 Kelas : 2021 B-->
4
5 <?php
6
7 abstract class Vehicle {
8     private $load = 0;
9     protected $maxLoad = 0, $name;
10
11     protected function __construct($maxLoad, $name) {
12         $this->$maxLoad = $maxLoad;
13         $this->$name = $name;
14     }
15
16     public function getLoad() {
17         return $this->load;
18     }
19
20     public function getMaxLoad() {
21         echo 'Maksimal muatan ' . $this->name . ' ';
22         return $this->maxLoad;
23     }
24
25     public function addBox($weight) {
26         if ($this->load >= $this->maxLoad) {
27             echo "$this->name menambah muatan sebesar $weight <br>";
28             echo 'Muatan telah penuh tidak bisa menambah lagi';
29         } else {
30             $this->load += $weight;
31             echo '$this->name menambah muatan sebesar $weight';
32         }
33     }
34
35     abstract public function calcFuelNeeds();
36
37     protected function calcFuelEfficiency() {
38         $range = 90000000;
39         $range /= $this->load;
40         return $range;
41     }
42
43     protected function calcTripDistance() {
44         return 900;
45     }
46 }
```
- Status Bar:** Shows the current file path: "C:\Users\DIAN NUR SAFITRI\Downloads\PBO UTS>PRAK 6>No.4 Abstract\_Praktikum6.php", line count: "Ln 44, Col 17", and encoding: "UTF-8".



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## Index.php

The screenshot shows the Visual Studio Code interface with the 'Index.php' file open. The code is a simple PHP script that includes a file named 'No4\_prak6.php' and outputs some HTML and CSS. The code editor has syntax highlighting for PHP and HTML. On the left, there's a sidebar with various extensions listed under the 'debuggers PHP' category. The extensions include 'PHP Xdebug', 'PHP Profiler', 'PHP Debug', 'Console Wrap PHP...', 'PHPUnit Test E...', 'Yet Another PH...', 'PeachPie for Vi...', 'HugoBot', and 'Hack'. Most of these extensions have an 'Install' button next to them.

```
<!-- Nama : Dian Nur Safitri
NIM : 21091397044
Kelas : 2021 B-->

<?php
require_once 'No4_prak6.php';

<!DOCTYPE html>
<html lang="en">

<head>
    <!-- Bootstrap CSS -->
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet"
        integrity="sha384-18mE4kWBg78iyHFldvKuhfTAU6auU8tT94WrHftjDbrCEXSU1oBoqyl2QvZ6jIW3" crossorigin="anonymous">

    <title>PBO - Praktikum 6</title>
</head>
<body>
    <h2 class="text-center">PBO - Praktikum 6</h2>
    <div class="container">
        <div class="row">
            <h4 class="text-center"><strong>Soal 4</strong></h4>
            <br><br>
            <div class="col-4 mx-auto border p-2 mt-2">
                <b><?= $riverBarge2->getMaxLoad() . ' kg'; ?><br><b>
                <?= $riverBarge2->addBox(13000) . ' kg'; ?><br>
                <?= $riverBarge2->addBox(15000) . ' kg'; ?><br>
                <?= $riverBarge2->addBox(4000) . ' kg'; ?><br>
                <?= $riverBarge2->addBox(8000) . ' kg'; ?><br>
                <?= $riverBarge2->dock(); ?><br>
                <?= $riverBarge2->cruise(); ?><br>
            </div>
        </div>
        <div class="col mx-auto border p-2 mt-2">
            <b><?= $seaPlane->getMaxLoad() . ' kg'; ?><br><b>
            <?= $seaPlane->addBox(13000) . ' kg'; ?><br>
            <?= $seaPlane->addBox(8000) . ' kg'; ?><br>
            <?= $seaPlane->dock(); ?><br>
            <?= $seaPlane->cruise(); ?><br>
            <?= $seaPlane->takeOff(); ?><br>
            <?= $seaPlane->fly(); ?><br>
            <?= $seaPlane->land(); ?><br>
            <?php
                echo "Jadi, Butuh Bahan Bakar sebanyak " . $seaPlane->calcFuelNeeds() . ' Liter'. '<br>';
            </?>
        </div>
        <div class="col mx-auto border p-2 mt-2">
            <b><?= $helicopter->getMaxLoad() . ' kg'; ?><br><b>
            <?= $helicopter->addBox(50000) . ' kg'; ?><br>
            <?= $helicopter->addBox(10000) . ' kg'; ?><br>
            <?= $helicopter->takeOff(); ?><br>
            <?= $helicopter->fly(); ?><br>
            <?= $helicopter->land(); ?><br>
            <?php
                echo "Jadi, Butuh Bahan Bakar sebanyak " . $helicopter->calcFuelNeeds() . ' Liter'. '<br>';
            </?>
        </div>
    </div>
</body>
```

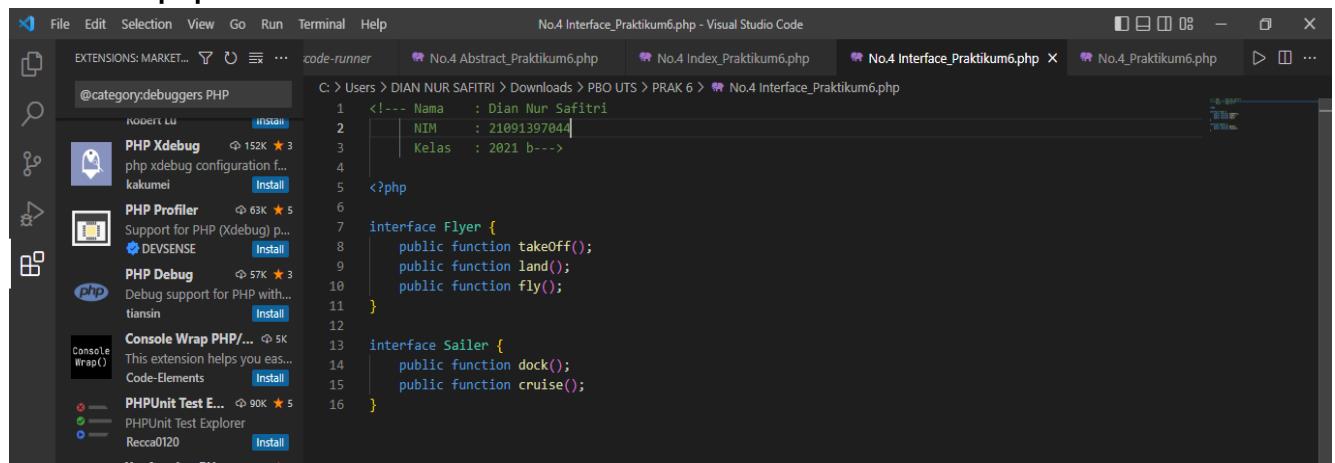
This screenshot shows the continuation of the 'Index.php' file from the previous one. It contains more PHP code that interacts with objects like '\$riverBarge2', '\$seaPlane', and '\$helicopter' to calculate fuel needs and output results. The code editor shows lines 35 through 65.

```
</div>
<div class="col-4 mx-auto border p-2 mt-2">
    <b><?= $riverBarge2->getMaxLoad() . ' kg'; ?><br><b>
    <?= $riverBarge2->addBox(13000) . ' kg'; ?><br>
    <?= $riverBarge2->addBox(15000) . ' kg'; ?><br>
    <?= $riverBarge2->addBox(4000) . ' kg'; ?><br>
    <?= $riverBarge2->addBox(8000) . ' kg'; ?><br>
    <?= $riverBarge2->dock(); ?><br>
    <?= $riverBarge2->cruise(); ?><br>
</div>
<div class="col mx-auto border p-2 mt-2">
    <b><?= $seaPlane->getMaxLoad() . ' kg'; ?><br><b>
    <?= $seaPlane->addBox(13000) . ' kg'; ?><br>
    <?= $seaPlane->addBox(8000) . ' kg'; ?><br>
    <?= $seaPlane->dock(); ?><br>
    <?= $seaPlane->cruise(); ?><br>
    <?= $seaPlane->takeOff(); ?><br>
    <?= $seaPlane->fly(); ?><br>
    <?= $seaPlane->land(); ?><br>
    <?php
        echo "Jadi, Butuh Bahan Bakar sebanyak " . $seaPlane->calcFuelNeeds() . ' Liter'. '<br>';
    </?>
</div>
<div class="col mx-auto border p-2 mt-2">
    <b><?= $helicopter->getMaxLoad() . ' kg'; ?><br><b>
    <?= $helicopter->addBox(50000) . ' kg'; ?><br>
    <?= $helicopter->addBox(10000) . ' kg'; ?><br>
    <?= $helicopter->takeOff(); ?><br>
    <?= $helicopter->fly(); ?><br>
    <?= $helicopter->land(); ?><br>
    <?php
        echo "Jadi, Butuh Bahan Bakar sebanyak " . $helicopter->calcFuelNeeds() . ' Liter'. '<br>';
    </?>
</div>
</div>
</body>
```



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## Interface php



The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Code Runner Tab:** No.4 Interface\_Praktikum6.php - Visual Studio Code
- Code Editor:** The code is displayed in a dark-themed editor. The code is as follows:

```
C:\> Users > DIAN NUR SAFITRI > Downloads > PBO UTS > PRAK 6 > No.4 Interface_Praktikum6.php
No.4 Interface_Praktikum6.php X No.4 Praktikum6.php
No.4 Abstract_Praktikum6.php No.4 Index_Praktikum6.php No.4 Interface_Praktikum6.php X No.4 Praktikum6.php

1 <!-- Nama : Dian Nur Safitri
2 | NIM : 21091397044
3 | Kelas : 2021 b-->
4
5 <?php
6
7 interface Flyer {
8     public function takeOff();
9     public function land();
10    public function fly();
11 }
12
13 interface Sailer {
14     public function dock();
15     public function cruise();
16 }
```

**Extensions Sidebar:** Shows extensions for PHP development, including PHP Xdebug, PHP Profiler, PHP Debug, and Console Wrap PHP.

### Penjelasan :

Analisa implementasi yang terdapat pada polymorphism dengan menggunakan interface dan abstract class ditunjukkan pada class seaplane yang implementasinya interface sailer. Turunan dari class airplane yang implementasinya flyer dan child dari sebuah vehicle sehingga class seaplane memiliki method dock, cruise, take off, land, fly, dan calcfuelneed.



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