

LAPORAN PRAKTIKUM 5
Pemograman Berorientasi Objek



Disusun Oleh :

Affandika Febrian Putra Yunanto (21091397030)

PROGRAM STUDI D4 MANAJEMEN INFORMATIKA

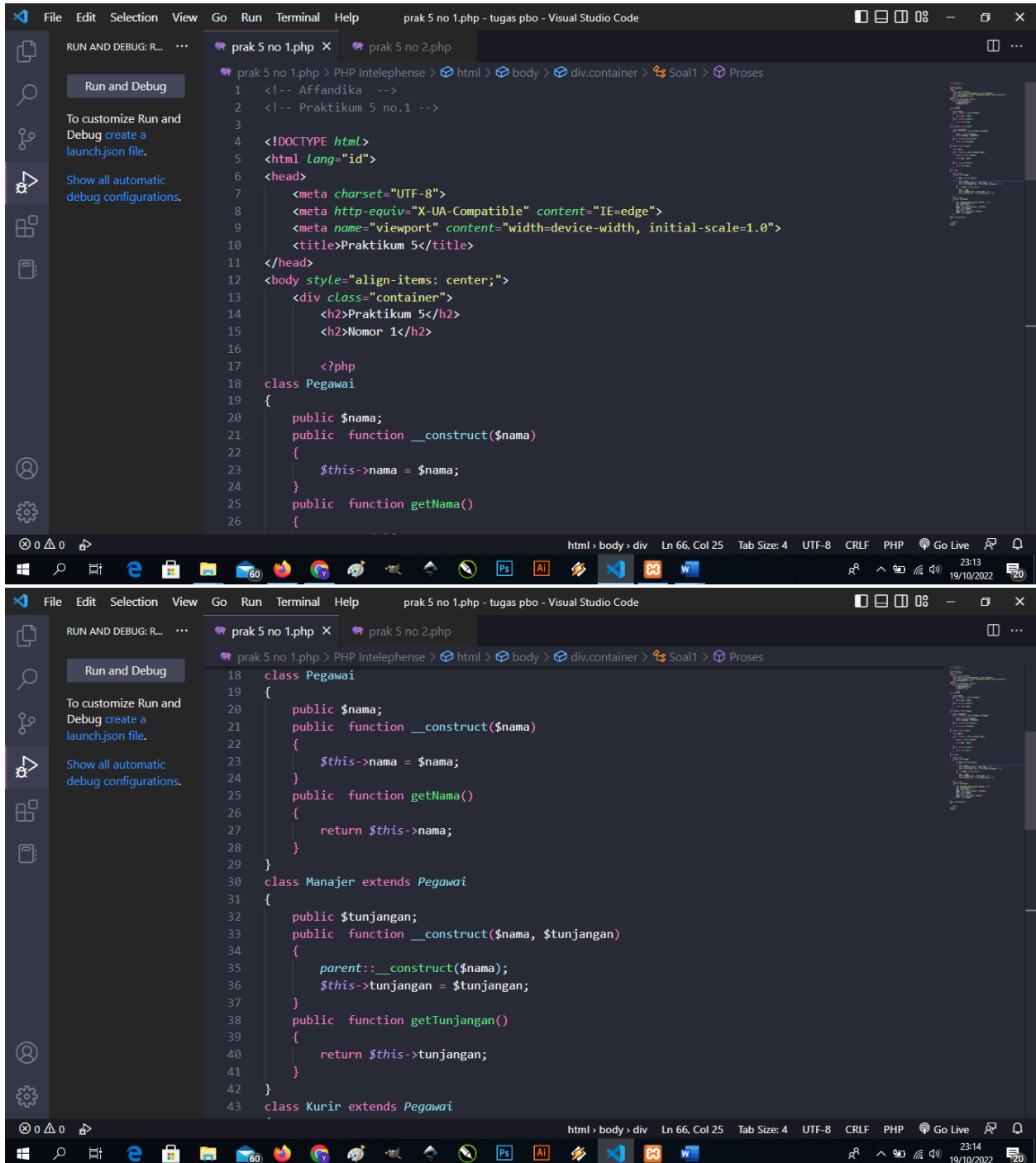
FAKULTAS VOKASI

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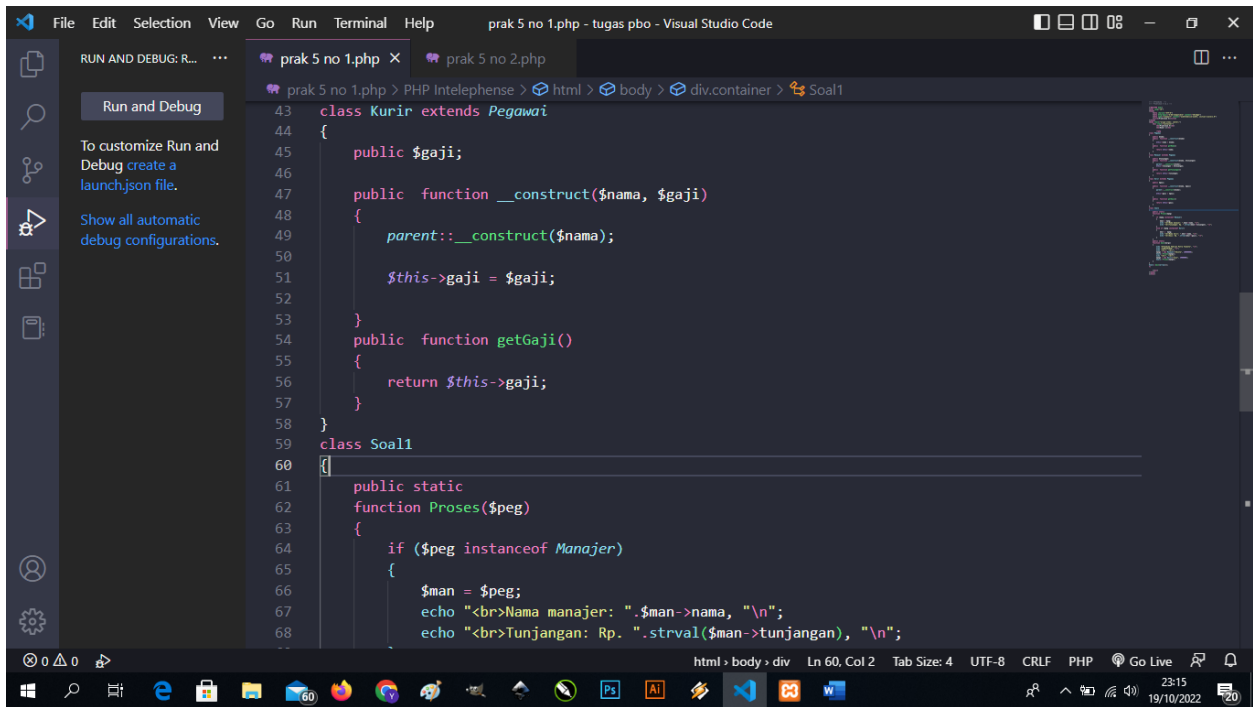
2022

1. Suatu program terdiri dari class Pegawai sebagai parent class, class Manajer dan class Kurir sebagai subclass. Buatlah suatu program yang menerapkan konsep polymorphic argument (Polymorphic arguments adalah tipe suatu parameter yang menerima suatu nilai yang bertipe subclass-nya)

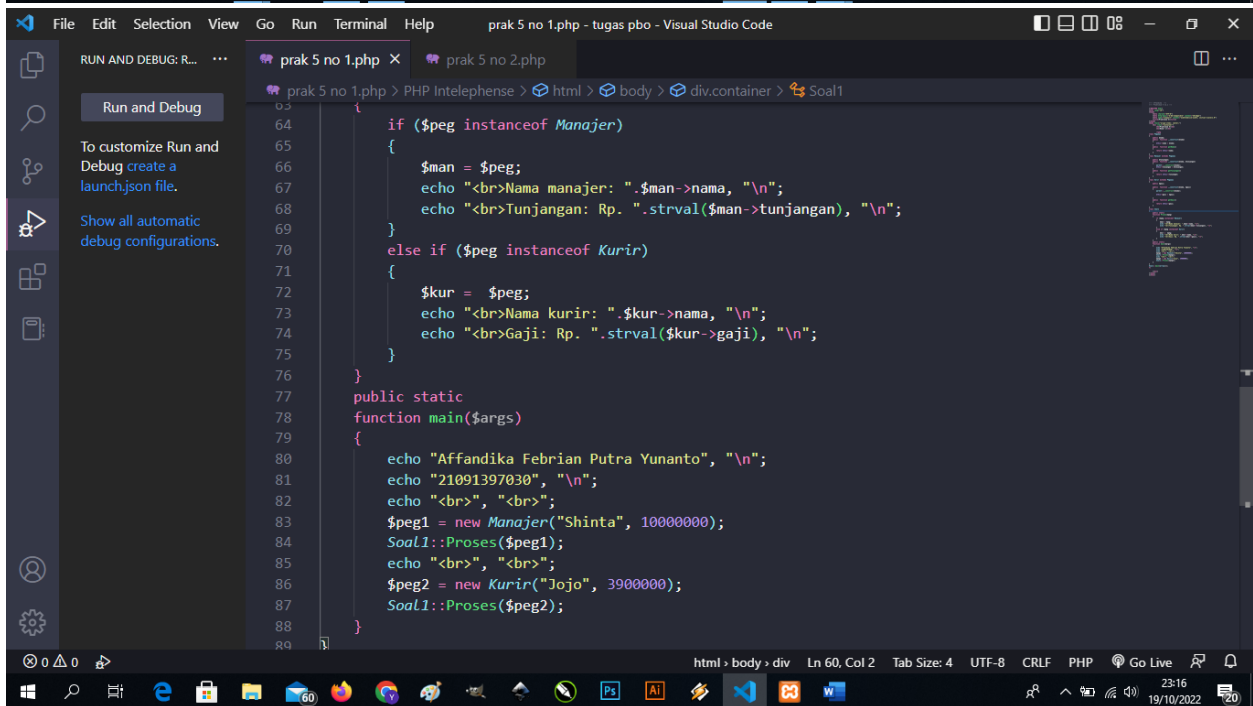
Source code:



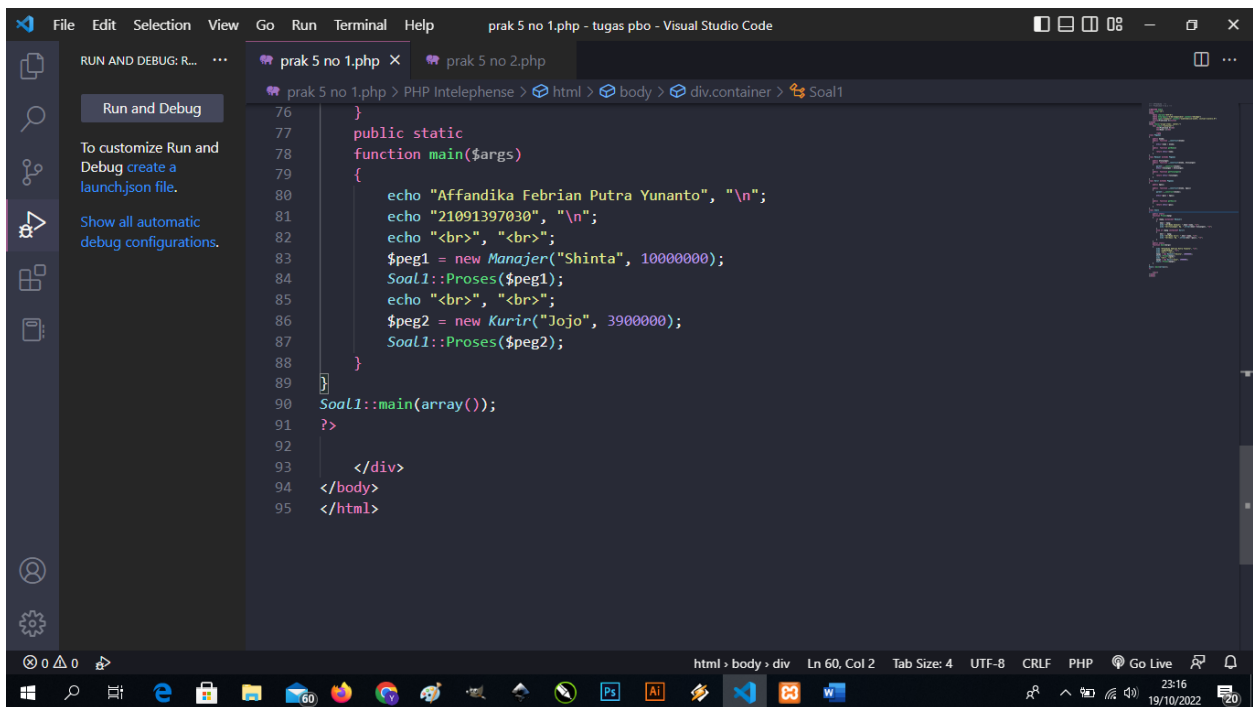
```
1 <!-- Affandika -->
2 <!-- Praktikum 5 no.1 -->
3
4 <!DOCTYPE html>
5 <html Lang="id">
6 <head>
7     <meta charset="UTF-8">
8     <meta http-equiv="X-UA-Compatible" content="IE=edge">
9     <meta name="viewport" content="width=device-width, initial-scale=1.0">
10    <title>Praktikum 5</title>
11 </head>
12 <body style="align-items: center;">
13     <div class="container">
14         <h2>Praktikum 5</h2>
15         <h2>Nomor 1</h2>
16     </div>
17
18     <?php
19     class Pegawai
20     {
21         public $nama;
22         public function __construct($nama)
23         {
24             $this->nama = $nama;
25         }
26         public function getNama()
27         {
28             return $this->nama;
29         }
30     }
31
32     class Manajer extends Pegawai
33     {
34         public $tunjangan;
35         public function __construct($nama, $tunjangan)
36         {
37             parent::__construct($nama);
38             $this->tunjangan = $tunjangan;
39         }
40         public function getTunjangan()
41         {
42             return $this->tunjangan;
43         }
44     }
45
46     class Kurir extends Pegawai
47     {
48         public $tunjangan;
49         public function __construct($nama, $tunjangan)
50         {
51             parent::__construct($nama);
52             $this->tunjangan = $tunjangan;
53         }
54         public function getTunjangan()
55         {
56             return $this->tunjangan;
57         }
58     }
59
60     $pegawai = new Pegawai("Affandika");
61     $manajer = new Manajer("Manajer", 1000000);
62     $kurir = new Kurir("Kurir", 500000);
63
64     echo $pegawai->getNama();
65     echo $manajer->getTunjangan();
66     echo $kurir->getTunjangan();
67
68     </body>
69 </html>
```



```
43 class Kurir extends Pegawai
44 {
45     public $gaji;
46
47     public function __construct($nama, $gaji)
48     {
49         parent::__construct($nama);
50
51         $this->gaji = $gaji;
52     }
53
54     public function getGaji()
55     {
56         return $this->gaji;
57     }
58 }
59
60 class Soal1
61 {
62     public static
63     function Proses($peg)
64     {
65         if ($peg instanceof Manajer)
66         {
67             $man = $peg;
68             echo "<br>Nama manajer: ".$man->nama, "\n";
69             echo "<br>Tunjangan: Rp. ".strval($man->tunjangan), "\n";
```

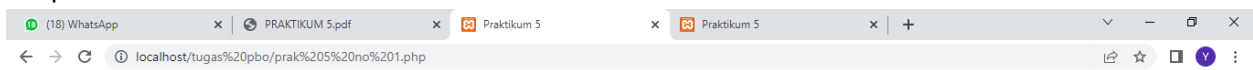


```
70         }
71         else if ($peg instanceof Kurir)
72         {
73             $kur = $peg;
74             echo "<br>Nama kurir: ".$kur->nama, "\n";
75             echo "<br>Gaji: Rp. ".strval($kur->gaji), "\n";
76         }
77     }
78
79     public static
80     function main($args)
81     {
82         echo "Affandika Febrian Putra Yunanto", "\n";
83         echo "21091397030", "\n";
84         echo "<br>", "<br>";
85         $peg1 = new Manajer("Shinta", 10000000);
86         Soal1::Proses($peg1);
87         echo "<br>", "<br>";
88         $peg2 = new Kurir("Jojo", 3900000);
89         Soal1::Proses($peg2);
90     }
91 }
```



```
76 }
77 public static
78 function main($args)
79 {
80     echo "Affandika Febrian Putra Yunanto", "\n";
81     echo "21091397030", "\n";
82     echo "<br>", "<br>";
83     $peg1 = new Manajer("Shinta", 10000000);
84     Soal1::Proses($peg1);
85     echo "<br>", "<br>";
86     $peg2 = new Kurir("Jojo", 39000000);
87     Soal1::Proses($peg2);
88 }
89 }
90 Soal1::main(array());
91 ?>
92
93 </div>
94 </body>
95 </html>
```

Output:



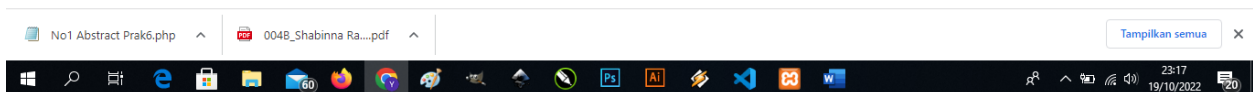
Praktikum 5

Nomor 1

Affandika Febrian Putra Yunanto 21091397030

Nama manajer: Shinta
Tunjangan: Rp. 10000000

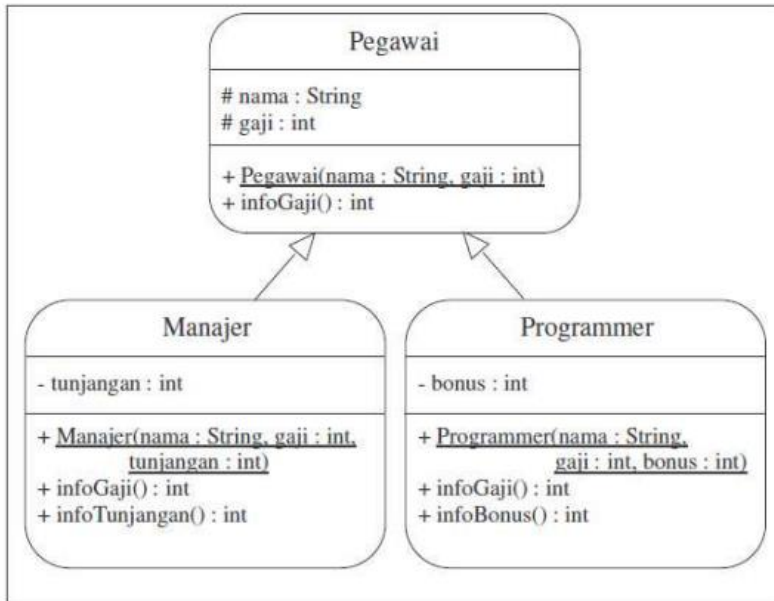
Nama kurir: Jojo
Gaji: Rp. 39000000



Analisis:

Pada kasus yang terdapat pada soal diatas implementasi dari polymorphic argument berada di class info dimana method info dibuat static agar pemanggilannya tidak memerlukan diinisiasi, sehingga bisa langsung dimasukkan menjadi parameter pada method info di class info

2. Buat program berdasarkan UML berikut!



Source code:

```
1 <!-- Affandika -->
2 <!-- Praktikum 5 no.2 -->
3
4 <!DOCTYPE html>
5 <html lang="id">
6 <head>
7     <meta charset="UTF-8">
8     <meta http-equiv="X-UA-Compatible" content="IE=edge">
9     <meta name="viewport" content="width=device-width, initial-scale=1.0">
10    <title>Praktikum 5</title>
11 </head>
12 <body>
13     <div class="container">
14         <h2>Praktikum 5</h2>
15         <h2>Nomor 2</h2>
16     </div>
17     <?php
18     class Pegawai
19     {
20         public $nama;
21         public $gaji;
22         public function __construct($nama, $gaji)
23         {
24             $this->nama = $nama;
25             $this->gaji = $gaji;
26         }
27     }
```

```
File Edit Selection View Go Run Terminal Help prak 5 no 2.php - tugas pbo - Visual Studio Code

RUN AND DEBUG: R... ... prak 5 no 1.php prak 5 no 2.php X

Run and Debug
To customize Run and Debug create a launch.json file.
Show all automatic debug configurations.

20 public $nama;
21 public $gaji;
22 public function __construct($nama, $gaji)
23 {
24     $this->nama = $nama;
25     $this->gaji = $gaji;
26 }
27 public function infoGaji()
28 {
29     return $this->gaji;
30 }
31 }
32 class Manajer extends Pegawai
33 {
34     private $tunjangan;
35     public function __construct($nama, $gaji, $tunjangan)
36     {
37         parent::__construct($nama, $gaji);
38         $this->tunjangan = $tunjangan;
39     }
40     public function infoGaji()
41     {
42         return $this->gaji;
43     }
44     public function infoTunjangan()
45     {
```

html > body > div Ln 56, Col 6 Tab Size: 4 UTF-8 CRLF PHP Go Live 23:18 19/10/2022

```
File Edit Selection View Go Run Terminal Help prak 5 no 2.php - tugas pbo - Visual Studio Code

RUN AND DEBUG: R... ... prak 5 no 1.php prak 5 no 2.php X

Run and Debug
To customize Run and Debug create a launch.json file.
Show all automatic debug configurations.

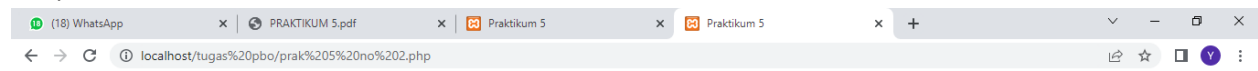
44 public function infoTunjangan()
45 {
46     return $this->tunjangan;
47 }
48 }
49 class Programmer extends Pegawai
50 {
51     private $bonus;
52     public function __construct($nama, $gaji, $bonus)
53     {
54         parent::__construct($nama, $gaji);
55         $this->bonus = $bonus;
56     }
57     public function infoGaji()
58     {
59         return $this->gaji;
60     }
61     public function infoBonus()
62     {
63         return $this->bonus;
64     }
65 }
66 class Bayaran
67 {
68     public function hitungBayaran($peg)
69     {
```

html > body > div Ln 56, Col 6 Tab Size: 4 UTF-8 CRLF PHP Go Live 23:19 19/10/2022

```
66 class Bayaran
67 {
68     public function hitungBayaran($peg)
69     {
70         $uang = $peg->infoGaji();
71
72         return $uang;
73     }
74     public static function main($args)
75     {
76         echo "Affandika Febrian Putra Yunanto", "\n";
77         echo "21091397030", "\n";
78         echo "<br>";
79         $man = new Manajer("Shinta", 10000000, 1000000);
80         echo "<br>", "<br>";
81         $prog = new Programmer("Dita", 7500000, 540000);
82         echo "<br>", "<br>";
83         $hr = new Bayaran();
84         echo "<br> Gaji untuk Manajer ". $man->nama. " : Rp. ".strval($hr->hitungBayaran($man)) ,
85         echo "<br>", "<br>";
86         echo "<br>Gaji untuk Programmer ".$prog->nama. " : Rp. ".strval($hr->hitungBayaran($prog)
87     }
88 }
89
90 Bayaran::main(array());
91
```

```
74 public static function main($args)
75 {
76     echo "Affandika Febrian Putra Yunanto", "\n";
77     echo "21091397030", "\n";
78     echo "<br>";
79     $man = new Manajer("Shinta", 10000000, 1000000);
80     echo "<br>", "<br>";
81     $prog = new Programmer("Dita", 7500000, 540000);
82     echo "<br>", "<br>";
83     $hr = new Bayaran();
84     echo "<br> Gaji untuk Manajer ". $man->nama. " : Rp. ".strval($hr->hitungBayaran($man)) ,
85     echo "<br>", "<br>";
86     echo "<br>Gaji untuk Programmer ".$prog->nama. " : Rp. ".strval($hr->hitungBayaran($prog)
87 }
88 }
89
90 Bayaran::main(array());
91
92 <!-- END PHP -->
93 </div>
94 </body>
95 </html>
```

Output:



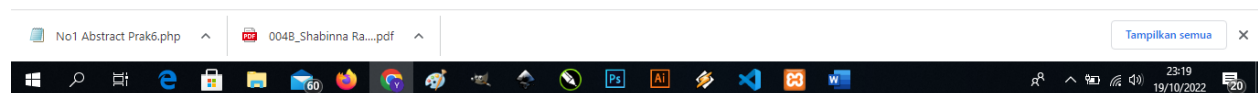
Praktikum 5

Nomor 2

Affandika Febrian Putra Yunanto 21091397030

Gaji untuk Manajer Shinta : Rp. 10000000

Gaji untuk Programmer Dita : Rp. 7500000



Analisis:

Program diatas adalah penerapan inheritance dengan konsep overriding, dimana pemanggilan construct di masing-masing class turunan hanya akan menginisiasi properti yang dimiliki dengan visibilitas private dan properti lain yang diturunkan akan langsung diinisiasi dengan construct dari parentnya.