

Tugas Pemrograman Berorientasi Objek

Praktikum 3 INHERITANCE



Nama:

Riska Octavia Arianto

21091397059

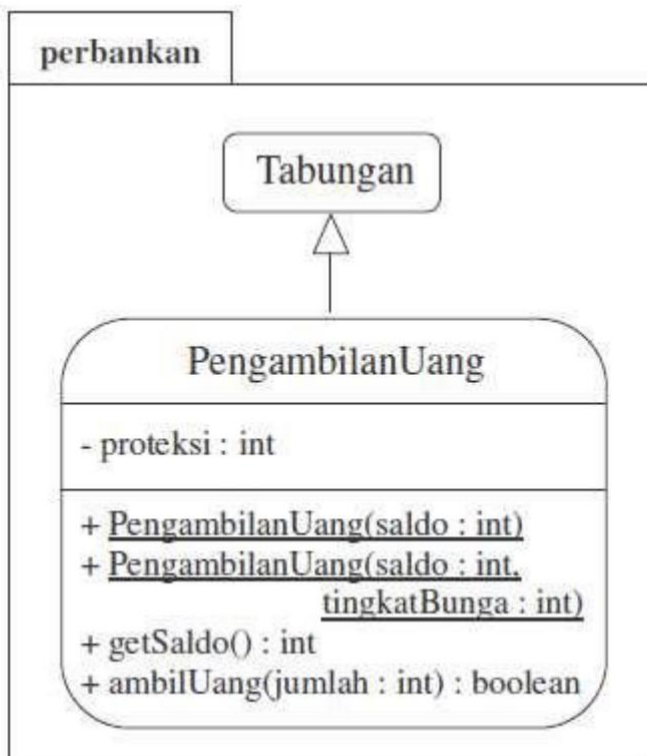
DIV MANAJEMEN INFORMATIKA

PROGRAM VOKASI

UNIVERSITAS NEGERI SURABAYA

TAHUN AJARAN 2021/2022

1. Transformasikan UML class diagram dibawah ini kedalam program



Pseudocode dari soal di atas adalah sebagai berikut:

```
1 <Nama : Riska Octavia Arianto -->
2 <NIM : 21091397059 -->
3 <Prodi : D4 Manajemen Informatika - 2021A -->
4 <Tugas Praktikum 3 Mata Kuliah PBO -->
5
6 <?php
7
8 class Tabungan{
9     protected $saldo;
10 }
11
12 //Pengambilan Saldo
13 class PengambilanUang extends Tabungan{
14     private $proteksi;
15
16     public function __construct($saldo)
17     {
18         $this->saldo=$saldo;
19         $this->proteksi = 1000;
20     }
21
22     public function getSaldo(){
23         return "Uang yang ditabung : " . $this->saldo . "<br> Uang yang diproteksi : " . $this->proteksi;
24     }
25
26     public function ambilUang($jumlah){
27         if($jumlah == 4500){
28             return "Uang yang akan diambil : " . $jumlah . " false <br> Saldo sekarang : " . $this->saldo;
29         }else{
30             return "Uang yang akan diambil : " . $jumlah . " true <br> Saldo sekarang : " . $this->saldo -= $jumlah;
31         }
32     }
33 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

[Running] php "c:\xampp\htdocs\Praktikum3\test.php"

'php' is not recognized as an internal or external command, operable program or batch file.

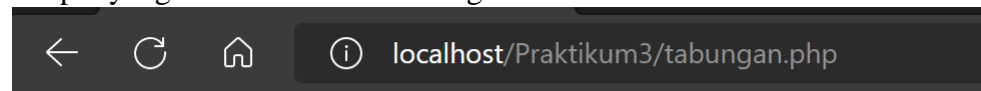
[Done] exited with code=1 in 0.091 seconds

```

30         return "Uang yang akan diambil : " . $jumlah . " true <br> Saldo sekarang : " . $this->saldo -= $jumlah;
31     }
32 }
33 }
34
35 $tabungan = new PengambilanUang(5000);
36 echo $tabungan->getSaldo();
37 echo "<br> ----- <br>";
38 echo $tabungan->ambilUang(4500);
39 echo "<br> ----- <br>";
40 echo $tabungan->ambilUang(2500);

```

Output yang dihasilkan adalah sebagai berikut:

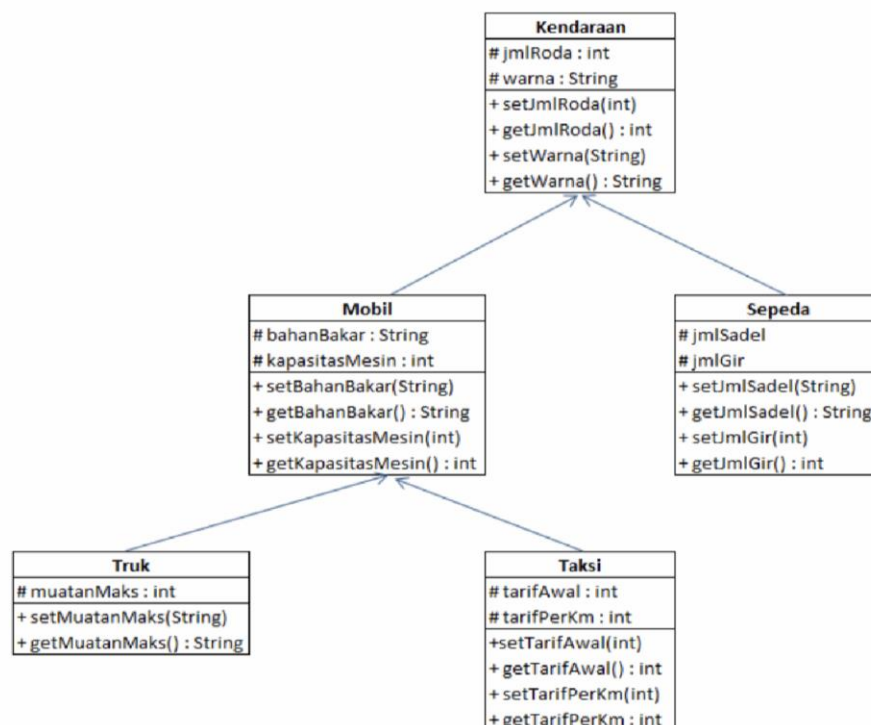


```

Uang yang ditabung : 5000
Uang yang diproteksi : 1000
-----
Uang yang akan diambil : 4500 false
Saldo sekarang : 5000
-----
Uang yang akan diambil : 2500 true
Saldo sekarang : 2500

```

2. a. Buatlah kelas-kelas berdasarkan UML class diagram dibawah ini!



Hasil pseudocode dari class diatas adalah sebagai berikut:

```
C:\> xampp > htdocs > Praktikum3 > class_kendaraan.php > Nama > NIM > Prodi > Tugas
1 <Nama : Riska Octavia Arianto -->
2 <NIM : 21891397059 -->
3 <Prodi : D4 Manajemen Informatika - 2021A -->
4 <Tugas Praktikum 3 Mata Kuliah PBO -->
5
6 <?php
7
8 // Kendaraan
9 class Kendaraan {
10     protected $jmlRoda, $warna;
11     function setJmlRoda($jmlRoda){
12         $this->jmlRoda = $jmlRoda;
13     }
14     public function getJmlRoda(){
15         return $this->jmlRoda;
16     }
17     public function setWarna($warna){
18         $this->warna = $warna;
19     }
20     public function getWarna(){
21         return $this->warna;
22     }
23 }
24
25 // Mobil (Kendaraan)
26 class Mobil extends Kendaraan{
27     protected $bahanBakar, $kapasitasMesin;
28     public function setBahanBakar($bahanBakar){
29         $this->bahanBakar = $bahanBakar;
30     }
31 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

[Running] php "c:\xampp\htdocs\Praktikum3\test.php"
'php' is not recognized as an internal or external command,
operable program or batch file.

[Done] exited with code=1 in 0.091 seconds

```
25 // Mobil (Kendaraan)
26 class Mobil extends Kendaraan{
27     protected $bahanBakar, $kapasitasMesin;
28     public function setBahanBakar($bahanBakar){
29         $this->bahanBakar = $bahanBakar;
30     }
31     public function getBahanBakar(){
32         return $this->bahanBakar;
33     }
34     public function setKapasitasMesin($kapasitasMesin){
35         $this->kapasitasMesin = $kapasitasMesin;
36     }
37     public function getKapasitasMesin(){
38         return $this->kapasitasMesin;
39     }
40 }
41
42 // Sepeda (Kendaraan)
43 class Sepeda extends Kendaraan{
44     protected $jmlSadel, $jmlGir;
45     public function setJmlSadel($jmlSadel){
46         $this->jmlSadel = $jmlSadel;
47     }
48     public function getJmlSadel(){
49         return $this->jmlSadel;
50     }
51     public function setJmlGir($jmlGir){
52         $this->jmlGir = $jmlGir;
53     }
54     public function getJmlGir(){
55 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

[Running] php "c:\xampp\htdocs\Praktikum3\test.php"
'php' is not recognized as an internal or external command,
operable program or batch file.

[Done] exited with code=1 in 0.091 seconds

```
File Edit Selection View Go Run Terminal Help
class_kendaraan.php - Visual Studio Code

tabungan.php class_kendaraan.php test.php
C:\xampp\htdocs\Praktikum3> class_kendaraan.php > Nama > NIM > Prodi > Tugas

50 }
51 public function setJmlGir($jmlGir){
52     $this->jmlGir = $jmlGir;
53 }
54 public function getJmlGir(){
55     return $this->jmlGir;
56 }
57 }
58
59 // Truk (Mobil)
60 class Truk extends Mobil{
61     private $muatanMaks;
62     public function setMuatanMaks($muatanMaks){
63         $this->muatanMaks = $muatanMaks;
64     }
65     public function getMuatanMaks(){
66         return $this->muatanMaks;
67     }
68 }
69
70 // Taksi (Mobil)
71 class Taksi extends Mobil{
72     private $tarifAwal, $tarifPerKm;
73     public function setTarifAwal($tarifAwal){
74         $this->tarifAwal = $tarifAwal;
75     }
76     public function getTarifAwal(){
77         return $this->tarifAwal;
78     }
79     public function setTarifPerKm($tarifPerKm){
80
[Running] php "c:\xampp\htdocs\Praktikum3\test.php"
'php' is not recognized as an internal or external command,
operable program or batch file.

[Done] exited with code=1 in 0.091 seconds

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Code
Ln 6, Col 7 Spaces: 4 UTF-8 CRLF PHP
87°F Sunny
5:54 PM 9/23/2022
```

```
File Edit Selection View Go Run Terminal Help
class_kendaraan.php - Visual Studio Code

tabungan.php class_kendaraan.php test.php
C:\xampp\htdocs\Praktikum3> class_kendaraan.php > Nama > NIM > Prodi > Tugas

75 }
76 public function getTarifAwal(){
77     return $this->tarifAwal;
78 }
79 public function setTarifPerKm($tarifPerKm){
80     $this->tarifPerKm = $tarifPerKm;
81 }
82 public function getTarifPerKm(){
83     return $this->tarifPerKm;
84 }
85 }
86
87 $truk1 = new Truk;
88 $truk1->setJmlRoda(4);
89 $truk1->setWarna("Kuning");
90 $truk1->setBahanBakar("Solar");
91 $truk1->setKapasitasMesin(1500);
92 $truk1->setMuatanMaks(1000);
93
94 $truk2 = new Truk;
95 $truk2->setJmlRoda(6);
96 $truk2->setWarna("Merah");
97 $truk2->setBahanBakar("Solar");
98 $truk2->setKapasitasMesin(2000);
99 $truk2->setMuatanMaks(5000);
100
101 $taksi1 = new Taksi;
102 $taksi1->setJmlRoda(4);
103 $taksi1->setWarna("Oranye");
104 $taksi1->setBahanBakar("Bensin");

[Running] php "c:\xampp\htdocs\Praktikum3\test.php"
'php' is not recognized as an internal or external command,
operable program or batch file.

[Done] exited with code=1 in 0.091 seconds

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Code
Ln 6, Col 7 Spaces: 4 UTF-8 CRLF PHP
87°F Sunny
5:54 PM 9/23/2022
```

```

101 $taksii = new Taksii;
102 $taksii->setJmlRoda(4);
103 $taksii->setWarna('Oranye');
104 $taksii->setBahanBakar('Bensin');
105 $taksii->setKapasitasMesin(1500);
106 $taksii->setTarifAwal(10000);
107 $taksii->setTarifPerKm(5000);
108
109 $taksii2 = new Taksii;
110 $taksii2->setJmlRoda(4);
111 $taksii2->setWarna('Biru');
112 $taksii2->setBahanBakar('Bensin');
113 $taksii2->setKapasitasMesin(1300);
114 $taksii2->setTarifAwal(7000);
115 $taksii2->setTarifPerKm(3500);
116
117 $sepeda1 = new Sepeda;
118 $sepeda1->setJmlRoda(3);
119 $sepeda1->setWarna('Hitam');
120 $sepeda1->setJmlSadel(1);
121 $sepeda1->setJmlGir(2);
122
123 $sepeda2 = new Sepeda;
124 $sepeda2->setJmlRoda(2);
125 $sepeda2->setWarna('Putih');
126 $sepeda2->setJmlSadel(2);
127 $sepeda2->setJmlGir(5);
128
129 >>

```

b. Selanjutnya buatlah kelas Tes.php yang membuat obyek-obyek serta mengeset nilai variabel seperti pada Tabel 1 dan tampilkan data per obyek.

Tabel 1. Data obyek

Obyek	jmlRoda	warna	bahanBakar	kapasitasMesin	muatanMaks	
truk1	4	kuning	solar	1500	1000	
truk2	6	merah	solar	2000	5000	
					tarifAwal	tarifPerKm
taksi1	4	oranye	bensin	1500	10000	5000
taksi1	4	biru	bensin	1300	7000	3500
			jmlSadel	jmlGir		
sepeda1	3	hitam	1	2		
sepeda2	2	putih	2	5		

Pseudocode dalam Tes.php adalah sebagai berikut:

```
File Edit Selection View Go Run Terminal Help
test.php - Visual Studio Code

tabungan.php class_kendaraan.php test.php X

C:\xampp\htdocs> Praktikum3 > test.php > Nama > NIM > Prodi > Tugas
1 <Nama : Riska Octavia Arianto -->
2 <NIM : 21091397059 -->
3 <Prodi : D4 Manajemen Informatika - 2021A -->
4 <Tugas Praktikum 3 Mata Kuliah PBO -->
5
6 <?php
7 require_once 'class_kendaraan.php';
8 ?>
9
10 <html align="center">
11 <title>Tabel Data Obyek</title>
12
13 <h4>Praktikum 3</h4>
14 <h2>Tabel Data Obyek</h2>
15
16 <table align="center" border="1" style="border-collapse: collapse;"
17 width="75%" height="41%">
18 <tr bgcolor="pink">
19 <th>Obyek</th>
20 <th>Jumlah Roda</th>
21 <th>Warna</th>
22 <th>Bahan bakar</th>
23 <th>Kapasitas Mesin</th>
24 <th>Muatan Maks</th>
25 <th>Tarif Awal</th>
26 <th>Tarif Per Km</th>
27 <th>Jumlah Sadel</th>
28 <th>Jumlah Gir</th>
29 </tr>
30
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

[Running] php "c:\xampp\htdocs\Praktikum3\test.php"
'php' is not recognized as an internal or external command,
operable program or batch file.

[Done] exited with code=1 in 0.091 seconds

Ln 5, Col 5 Spaces: 4 UTF-8 CRLF PHP

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```
File Edit Selection View Go Run Terminal Help
test.php - Visual Studio Code

tabungan.php class_kendaraan.php test.php X

C:\xampp\htdocs> Praktikum3 > test.php > Nama > NIM > Prodi > Tugas
31 <tr align="center">
32 <td>Truk1</td>
33 <td><?= $truk1->getJmlRoda(); ?></td>
34 <td><?= $truk1->getWarna(); ?></td>
35 <td><?= $truk1->getBahanBakar(); ?></td>
36 <td><?= $truk1->getKapasitasMesin(); ?></td>
37 <td><?= $truk1->getMuatanMaks(); ?></td>
38 <td></td>
39 <td></td>
40 <td></td>
41 <td></td>
42 </tr>
43
44 <tr align="center">
45 <td>Truk2</td>
46 <td><?= $truk2->getJmlRoda(); ?></td>
47 <td><?= $truk2->getWarna(); ?></td>
48 <td><?= $truk2->getBahanBakar(); ?></td>
49 <td><?= $truk2->getKapasitasMesin(); ?></td>
50 <td><?= $truk2->getMuatanMaks(); ?></td>
51 <td></td>
52 <td></td>
53 <td></td>
54 <td></td>
55 </tr>
56
57 <tr align="center">
58 <td>Taksi1</td>
59 <td><?= $taksi1->getJmlRoda(); ?></td>
60 <td><?= $taksi1->getWarna(); ?></td>
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

[Running] php "c:\xampp\htdocs\Praktikum3\test.php"
'php' is not recognized as an internal or external command,
operable program or batch file.

[Done] exited with code=1 in 0.091 seconds

Ln 5, Col 5 Spaces: 4 UTF-8 CRLF PHP

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test.php - Visual Studio Code

```
File Edit Selection View Go Run Terminal Help
C:\xampp\htdocs\Praktikum3 > test.php > Nama > NIM > Prodi > Tugas
57 <tr align="center">
58 <td>Taksi1</td>
59 <td><?=$taksi1->getJmlRoda(); ?></td>
60 <td><?=$taksi1->getWarna(); ?></td>
61 <td><?=$taksi1->getBahanBakar(); ?></td>
62 <td><?=$taksi1->getKapasitasMesin(); ?></td>
63 <td></td>
64 <td><?=$taksi1->getTarifAwal(); ?></td>
65 <td><?=$taksi1->getTarifPerKm(); ?></td>
66 <td></td>
67 </tr>
68
69
70 <tr align="center">
71 <td>Taksi2</td>
72 <td><?=$taksi2->getJmlRoda(); ?></td>
73 <td><?=$taksi2->getWarna(); ?></td>
74 <td><?=$taksi2->getBahanBakar(); ?></td>
75 <td><?=$taksi2->getKapasitasMesin(); ?></td>
76 <td></td>
77 <td><?=$taksi2->getTarifAwal(); ?></td>
78 <td><?=$taksi2->getTarifPerKm(); ?></td>
79 <td></td>
80 </tr>
81
82
83 <tr align="center">
84 <td>Sepedal</td>
85 <td><?=$sepedal->getJmlRoda(); ?></td>
86 <td><?=$sepedal->getWarna(); ?></td>
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

[Running] php "c:\xampp\htdocs\Praktikum3\test.php"
'php' is not recognized as an internal or external command,
operable program or batch file.

[Done] exited with code=1 in 0.091 seconds

Ln 5, Col 5 Spaces: 4 UTF-8 CRLF PHP

85°F Mostly clear

test.php - Visual Studio Code

```
File Edit Selection View Go Run Terminal Help
C:\xampp\htdocs\Praktikum3 > test.php > Nama > NIM > Prodi > Tugas
57 <tr align="center">
58 <td>Taksi1</td>
59 <td><?=$taksi1->getJmlRoda(); ?></td>
60 <td><?=$taksi1->getWarna(); ?></td>
61 <td><?=$taksi1->getBahanBakar(); ?></td>
62 <td><?=$taksi1->getKapasitasMesin(); ?></td>
63 <td></td>
64 <td><?=$taksi1->getTarifAwal(); ?></td>
65 <td><?=$taksi1->getTarifPerKm(); ?></td>
66 <td></td>
67 </tr>
68
69
70 <tr align="center">
71 <td>Taksi2</td>
72 <td><?=$taksi2->getJmlRoda(); ?></td>
73 <td><?=$taksi2->getWarna(); ?></td>
74 <td><?=$taksi2->getBahanBakar(); ?></td>
75 <td><?=$taksi2->getKapasitasMesin(); ?></td>
76 <td></td>
77 <td><?=$taksi2->getTarifAwal(); ?></td>
78 <td><?=$taksi2->getTarifPerKm(); ?></td>
79 <td></td>
80 </tr>
81
82
83 <tr align="center">
84 <td>Sepedal</td>
85 <td><?=$sepedal->getJmlRoda(); ?></td>
86 <td><?=$sepedal->getWarna(); ?></td>
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

[Running] php "c:\xampp\htdocs\Praktikum3\test.php"
'php' is not recognized as an internal or external command,
operable program or batch file.

[Done] exited with code=1 in 0.091 seconds

Ln 5, Col 5 Spaces: 4 UTF-8 CRLF PHP

85°F Mostly clear


```
File Edit Selection View Go Run Terminal Help
test.php - Visual Studio Code

C:\xampp\htdocs\Praktikum3 > test.php > Nama > NIM > Prodi > Tugas

83      <tr align="center">
84          <td>Sepeda1</td>
85          <td><?= $sepeda1->getJmlRoda(); ?></td>
86          <td><?= $sepeda1->getWarna(); ?></td>
87          <td></td>
88          <td></td>
89          <td></td>
90          <td></td>
91          <td></td>
92          <td><?= $sepeda1->getJmlSadel(); ?></td>
93          <td><?= $sepeda1->getJmlGir(); ?></td>
94      </tr>
95
96      <tr align="center">
97          <td>Sepeda2</td>
98          <td><?= $sepeda2->getJmlRoda(); ?></td>
99          <td><?= $sepeda2->getWarna(); ?></td>
100          <td></td>
101          <td></td>
102          <td></td>
103          <td></td>
104          <td></td>
105          <td><?= $sepeda2->getJmlSadel(); ?></td>
106          <td><?= $sepeda2->getJmlGir(); ?></td>
107      </tr>
108
109 </table>
110 </html>
111
112

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Code

[Running] php "c:\xampp\htdocs\Praktikum3\test.php"
'php' is not recognized as an internal or external command,
operable program or batch file.

[Done] exited with code=1 in 0.091 seconds

Ln 5, Col 5 Spaces: 4 UTF-8 CRLF PHP
85°F Mostly clear
```

Hasil setelah ditambah Tes.php

Praktikum 3

Tabel Data Obyek

Obyek	Jumlah Roda	Warna	Bahan bakar	Kapasitas Mesin	Muatan Maks	Tarif Awal	Tarif Per Km	Jumlah Sadel	Jumlah Gir
Truk1	4	Kuning	Solar	1500	1000	-	-	-	-
Truk2	6	Merah	Solar	2000	5000	-	-	-	-
Taksi1	4	Oranye	Bensin	1500	-	10000	5000	-	-
Taksi2	4	Biru	Bensin	1300	-	7000	3500	-	-
Sepeda1	3	Hitam	-	-	-	-	-	1	2
Sepeda2	2	Putih	-	-	-	-	-	2	5

85°F Mostly clear