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# Tugas Pemrograman Berorientasi Objek: Interface dan Abstract pada Java dan PHP

**A. Java**

1. Interface

   a. Source Code

      Terlampir pada LAMPIRAN 1

   b. Output

```
===== Yamaha Nmax =====
[1] Nyalakan motor
[2] Matikan motor
[3] Gas
[4] Rem
[0] Keluar
======================
Pilih aksi> 1
Motor sudah menyala...
Selamat berkendara

===== Yamaha Nmax =====
[1] Nyalakan motor
[2] Matikan motor
[3] Gas
[4] Rem
[0] Keluar
======================
Pilih aksi> 3
Kecepatan saat ini: 5 km/h

===== Yamaha Nmax =====
[1] Nyalakan motor
[2] Matikan motor
[3] Gas
[4] Rem
[0] Keluar
======================
Pilih aksi> 4
Kecepatan saat ini: 0 km/h

===== Yamaha Nmax =====
[1] Nyalakan motor
[2] Matikan motor
[3] Gas
[4] Rem
[0] Keluar
======================
Pilih aksi> 2
Motor sudah dimatikan...
```

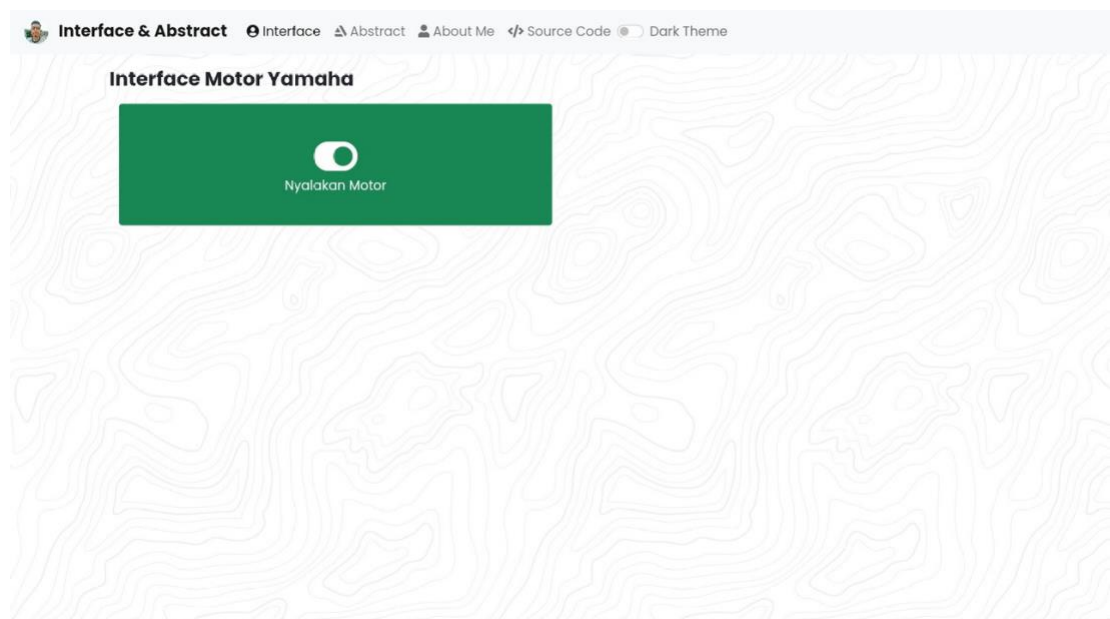2. Abstract

    a. Source Code

      Terlampir pada LAMPIRAN 2
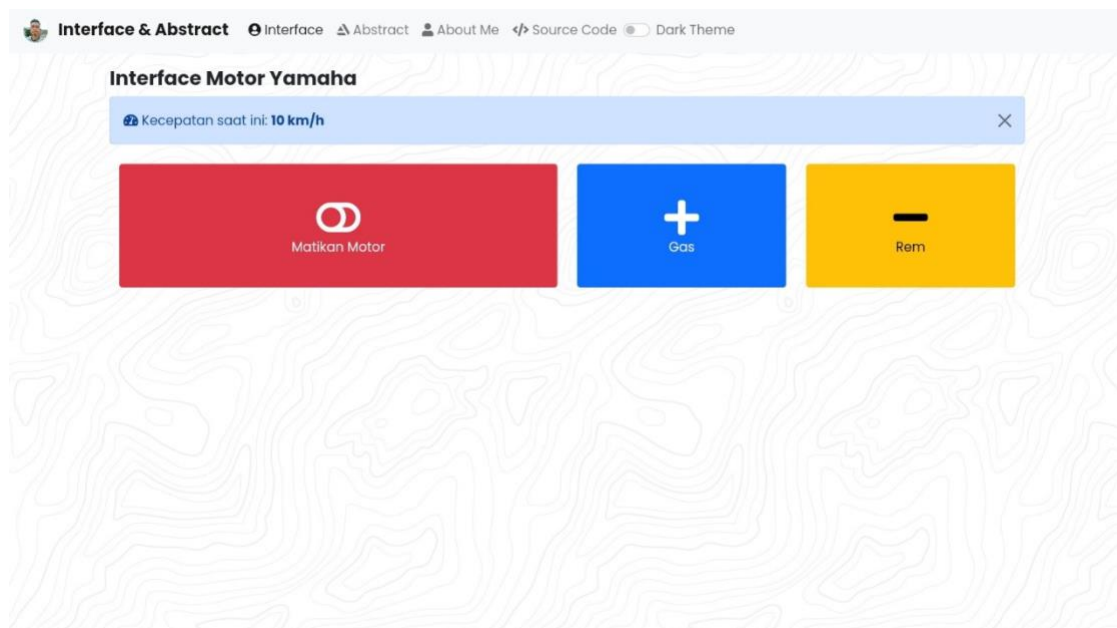
    b. Output



**B. PHP**

1. Source Code

   Terlampir pada LAMPIRAN 3

2. Output
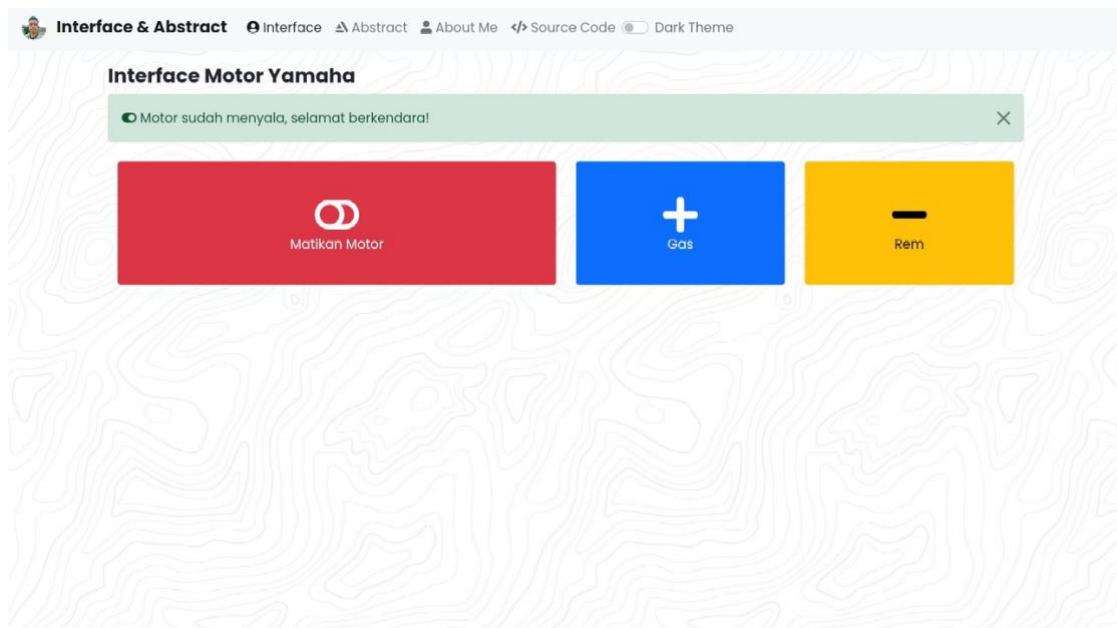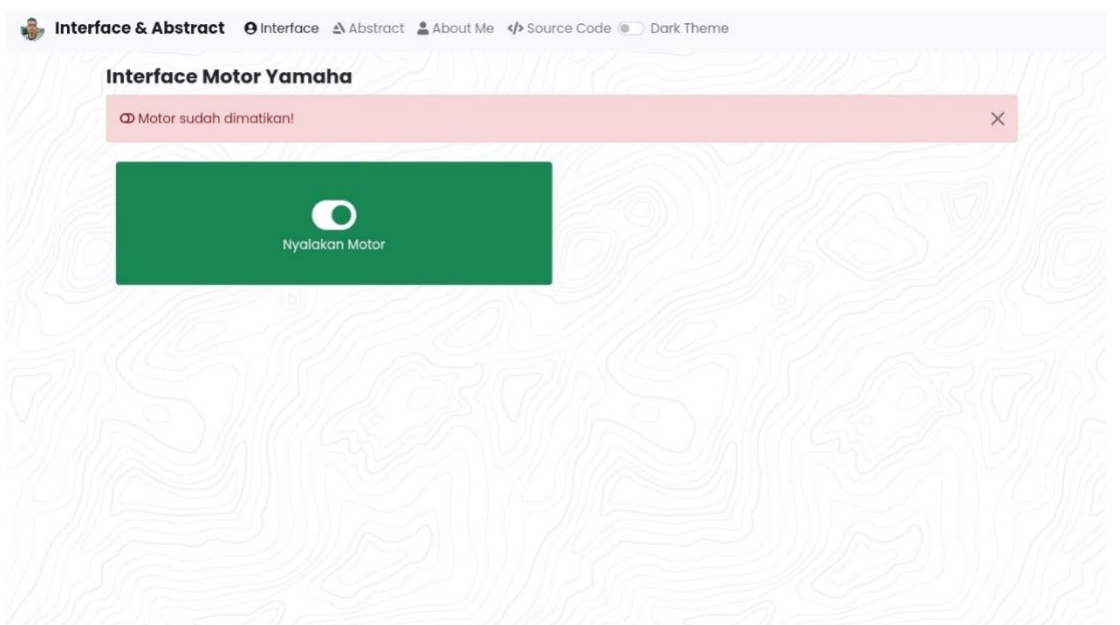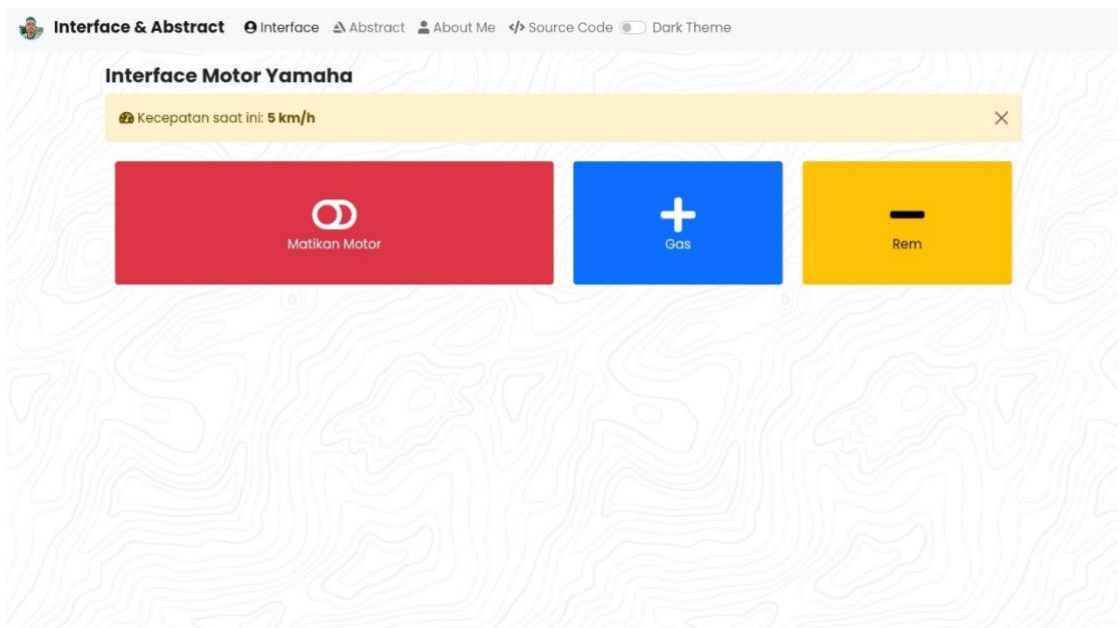
**Interface & Abstract**  👤 Interface  🔺 Abstract  👤 About Me  </> Source Code  ◯ Dark Theme

## Interface Motor Yamaha

⏲️ Kecepatan saat ini: **5 km/h**  ✕

| Matikan Motor | ➕ Gas | ➖ Rem |
|---|---|---|

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**Interface & Abstract**  👤 Interface  🔺 Abstract  👤 About Me  </> Source Code  ◯ Dark Theme

## Interface Motor Yamaha

◨ Motor sudah dimatikan!  ✕

Nyalakan Motor

## Abstract Volume Bangun Ruang

Pilih jenis bangun ruang:
- ⦿ Kubus
- ⬤ Balok

Sisi

| 6 | cm |

**🖩 Hitung**

Output

| 216 | cm² |

---

## Abstract Volume Bangun Ruang

Pilih jenis bangun ruang:
- ⬤ Kubus
- ⦿ Balok

| Panjang | | Lebar | | Tinggi | |
|---|---|---|---|---|---|
| 8 | cm | 3 | cm | 0,5 | cm |

**🖩 Hitung**

Output

| 12 | cm³ |

LAMPIRAN 1

```java
1 package Interface;
2
3 public interface Motor {
4     int MAX_SPEED = 140;
5     int MIN_SPEED = 0;
6
7     void nyalakan();
8     void matikan();
9     void gas();
10    void rem();
11 }
```

```java
1 package Interface;
2
3 public class Pengendara {
4     private Motor motor;
5
6     public Pengendara(Motor motor) {
7         this.motor = motor;
8     }
9
10    void menyalakanMotor() {
11        this.motor.nyalakan();
12    }
13
14    void mematikanMotor() {
15        this.motor.matikan();
16    }
17
18    void menggasMotor() {
19        this.motor.gas();
20    }
21
22    void mengeremMotor() {
23        this.motor.rem();
24    }
25 }
26
```

```java
package Interface;

public class Yamaha implements Motor {
  private int kecepatan;
  private boolean apakahMotorMenyala;

  public Yamaha() {
    this.kecepatan = 0;
  }

  public int getKecepatan() {
    return this.kecepatan;
  }

  @Override
  public void nyalakan() {
    apakahMotorMenyala = true;
    System.out.println("Motor sudah menyala...");
    System.out.println("Selamat berkendara");
  }

  @Override
  public void matikan() {
    apakahMotorMenyala = false;
    System.out.println("Motor sudah dimatikan...");
  }

  @Override
  public void gas() {
    if(apakahMotorMenyala) {
      if(this.kecepatan == MAX_SPEED) {
        System.out.println("Anda sudah mencapai kecepatan maksimum!");
        System.out.println("Kecepatan saat ini: " + this.getKecepatan() + " km/h");
      } else {
        this.kecepatan += 5;
        System.out.println("Kecepatan saat ini: " + this.getKecepatan() + " km/h");
      }
    } else {
      System.out.println("Motor masih mati, tolong nyalakan motor terlebih dahulu!");
    }
  }

  @Override
  public void rem() {
    if(apakahMotorMenyala) {
      if(this.kecepatan == MIN_SPEED) {
        System.out.println("Kecepatan saat ini: 0 km/h");
      } else {
        this.kecepatan -= 5;
        System.out.println("Kecepatan saat ini: " + this.getKecepatan() + " km/h");
      }
    } else {
      System.out.println("Motor masih mati, tolong nyalakan motor terlebih dahulu!");
    }
  }
}
```

```java
package Interface;

import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        Motor nmax = new Yamaha();
        Pengendara taufik = new Pengendara(nmax);
        Scanner in = new Scanner(System.in);
        String aksi;

        while (true) {
            System.out.println("===== Yamaha Nmax =====");
            System.out.println("[1] Nyalakan motor");
            System.out.println("[2] Matikan motor");
            System.out.println("[3] Gas");
            System.out.println("[4] Rem");
            System.out.println("[0] Keluar");
            System.out.println("=======================");
            System.out.print("Pilih aksi> ");
            aksi = in.nextLine();

            switch (aksi) {
                case "1":
                    taufik.menyalakanMotor();
                    break;
                case "2":
                    taufik.mematikanMotor();
                    break;
                case "3":
                    taufik.menggasMotor();
                    break;
                case "4":
                    taufik.mengeremMotor();
                    break;
                case "0":
                    in.close();
                    System.exit(0);
                    break;
                default:
                    System.out.println("Aksi tidak valid!");
                    break;
            }
            System.out.println();
        }
    }
}
```

```java
1 package Abstract;
2
3 public abstract class BangunRuang {
4   public abstract double getVolume();
5 }
```
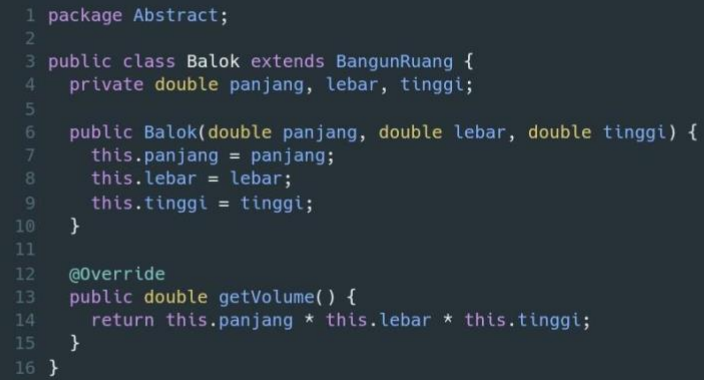
```java
1 package Abstract;
2
3 public class Kubus extends BangunRuang {
4   private double sisi;
5
6   public Kubus(double sisi) {
7     this.sisi = sisi;
8   }
9
10  @Override
11  public double getVolume() {
12    return Math.pow(this.sisi, 3);
13  }
14 }
```

```java
package Abstract;

public class Balok extends BangunRuang {
    private double panjang, lebar, tinggi;

    public Balok(double panjang, double lebar, double tinggi) {
        this.panjang = panjang;
        this.lebar = lebar;
        this.tinggi = tinggi;
    }

    @Override
    public double getVolume() {
        return this.panjang * this.lebar * this.tinggi;
    }
}
```

```java
package Abstract;
import java.util.Scanner;

public class Main {

    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String aksi;
        double sisi, panjang, lebar, tinggi;

        while(true) {
            System.out.println("===== Volume Bangun Ruang =====");
            System.out.println("[1] Kubus");
            System.out.println("[2] Balok");
            System.out.println("[0] Keluar");
            System.out.print("Pilih aksi> ");
            aksi = in.nextLine();

            switch(aksi) {
                case "1":
                    System.out.print("Masukkan panjang sisi kubus (cm)> ");
                    sisi = in.nextDouble(); in.nextLine();
                    BangunRuang kubus = new Kubus(sisi);
                    System.out.println("Volume dari kubus adalah       : " +
    kubus.getVolume() + " cm³\n");
                    break;
                case "2":
                    System.out.print("Masukkan panjang balok (cm) > ");
                    panjang = in.nextDouble(); in.nextLine();
                    System.out.print("Masukkan lebar balok (cm)   > ");
                    lebar = in.nextDouble(); in.nextLine();
                    System.out.print("Masukkan tinggi balok (cm)  > ");
                    tinggi = in.nextDouble(); in.nextLine();
                    BangunRuang balok = new Balok(panjang, lebar, tinggi);
                    System.out.println("Volume dari balok adalah    : " + balok.getVolume() +
    " cm³\n");
                    break;
                case "0":
                    in.close();
                    System.exit(0);
                    break;
                default:
                    System.out.println("Input tidak valid! Masukkan menu yang benar\n");
                    break;
            }
        }
    }
}
```

```php
1  <?php
2  error_reporting(E_ERROR | E_PARSE);
3  $interface = $_GET["interface"] || null;
4  $abstract = $_GET["abstract"] || null;
5  $_404 = $_GET["404"] || null;
6  ?>
7  <!DOCTYPE html>
8  <html lang="en">
9  <head>
10     <meta charset="UTF-8">
11     <meta name="viewport" content="width=device-width, initial-scale=1.0">
12     <title>Interface & Abstract pada PHP</title>
13     <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
       awesome/5.15.4/css/all.min.css" integrity="sha512-
       1ycn6IcaQQ40/MKBW2W4Rhis/DbILU74C1vSrLJxCq57o941Ym01SwNsOMqvEBFlcgUa6xLlPY/NS5R+E6z
       tJQ==" crossorigin="anonymous" referrerpolicy="no-referrer" />
14     <link rel="stylesheet" href="node_modules/bootstrap/dist/css/bootstrap.min.css"
       />
15     <!--<link rel="stylesheet" href="dist/css/bootstrap.min.css" />-->
16     <link rel="stylesheet" href="dist/css/style.css" />
17     <link rel="stylesheet" href="dist/css/bg.css" />
18     <link rel="icon" href="https://raw.githubusercontent.com/tfkhdyt/tfkhdyt-
       portfolio/main/assets/img/favicon.ico" />
19  </head>
20  <body style='background-color:<?php if ($_COOKIE["dark"] == "true") {
21      echo "#000000";
22  } else {
23      echo "#ffffff";
24  } ?>'>
25      <?php require "views/navbar.php"; ?>
26      <?php if (isset($interface) || $_GET == null) {
27          require "views/interface.php";
28      } elseif (isset($abstract)) {
29          require "views/abstract.php";
30      } elseif (isset($_404)) {
31          require "views/404.php";
32      } ?>
33      <script>
34          const toggle = document.getElementById("flexSwitchCheckDefault");
35          const navbar = document.getElementsByClassName("navbar")[0];
36          const darkThemeLabel = document.querySelector(".form-check-label");
37          const title = document.querySelector(".title");
38          const btn = document.querySelectorAll("a.btn");
39          const label = document.querySelectorAll("._label, span, input");
40          const hr = document.querySelectorAll("hr");
41          const form = document.querySelectorAll(".form-control, .input-group-text");
42          const formGroup = document.querySelectorAll(".input-group-text");
43          console.log();
44
45          toggle.addEventListener("change", () => {
46              if (toggle.checked) {
47                  document.cookie = "dark=true";
48                  navbar.classList.replace("navbar-light", "navbar-dark");
49                  navbar.classList.replace("bg-light", "bg-dark");
50                  darkThemeLabel.style.color = "#9B9D9E";
51                  title.className = "text-light";
52                  document.body.style.backgroundColor = "#141719";
53                  label.forEach((e) => e.style.color = "white");
54                  hr.forEach((e) => e.style.color = "white");
55                  form.forEach((e) => e.style.backgroundColor = "#737373");
56                  form.forEach((e) => e.style.borderColor = "#25272C");
57                  form[form.length - 2].style.backgroundColor = "#545454";
58                  formGroup.forEach((e) => e.style.backgroundColor = "#545454");
59              } else {
60                  document.cookie = "dark=false";
61                  navbar.classList.replace("navbar-dark", "navbar-light");
62                  navbar.classList.replace("bg-dark", "bg-light");
63                  darkThemeLabel.style.color = "#707071";
64                  title.className = "text-dark";
65                  document.body.style.backgroundColor = "white";
66                  label.forEach((e) => e.style.color = "black");
67                  hr.forEach((e) => e.style.color = "black");
68                  form.forEach((e) => e.style.backgroundColor = "");
69                  form.forEach((e) => e.style.borderColor = "");
70                  form[form.length - 2].style.backgroundColor = "";
71                  formGroup.forEach((e) => e.style.backgroundColor = "");
72              }
73          });
74      </script>
75      <?php if ($_COOKIE["dark"] == "true") { ?>
76          <script>
77              navbar.classList.replace("navbar-light", "navbar-dark");
78              navbar.classList.replace("bg-light", "bg-dark");
79              title.className = "text-light";
80              label.forEach((e) => e.style.color = "white");
81              hr.forEach((e) => e.style.color = "white");
82              document.body.style.backgroundColor = "#141719";
83              form.forEach((e) => e.style.backgroundColor = "#737373");
84              form.forEach((e) => e.style.borderColor = "#25272C");
85              form[form.length - 2].style.backgroundColor = "#545454";
86              formGroup.forEach((e) => e.style.backgroundColor = "#545454");
87          </script>
88      <?php } else { ?>
89          <script>
90              navbar.classList.replace("navbar-dark", "navbar-light");
91              navbar.classList.replace("bg-dark", "bg-light");
92              title.className = "text-dark";
93              label.forEach((e) => e.style.color = "black");
94              hr.forEach((e) => e.style.color = "black");
95              document.body.style.backgroundColor = "white";
96              form.forEach((e) => e.style.backgroundColor = "");
97              form.forEach((e) => e.style.borderColor = "");
98              form[form.length - 2].style.backgroundColor = "";
99              formGroup.forEach((e) => e.style.backgroundColor = "");
100         </script>
101     <?php } ?>
102
103     <script src="dist/js/bootstrap.bundle.min.js"></script>
104 </body>
105 </html>
```

```php
1  <?php
2  $interface = $_GET["interface"];
3  $abstract = $_GET["abstract"];
4  ?>
5  <nav class="navbar navbar-expand-md navbar-light bg-light">
6    <div class="container-fluid">
7      <a class="navbar-brand" href="?interface">
8        <img src="https://tfkhdyt.my.id/assets/img/profile-img.jpg" class="rounded-
   circle mx-2 d-inline-block align-text-top" width="30" />
9        Interface & Abstract
10     </a>
11     <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
   target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-
   expanded="false" aria-label="Toggle navigation">
12       <span class="navbar-toggler-icon"></span>
13     </button>
14     <div class="collapse navbar-collapse" id="navbarSupportedContent">
15       <ul class="navbar-nav me-auto mb-2 mb-md-0">
16         <li class="nav-item">
17           <a class="nav-link"
18             <?php if (isset($interface) || $_GET == null) {
19               echo "active";
20             } ?>" aria-current="page" href="/?interface"><i class="fas fa-user-
   circle"></i> Interface</a>
21         </li>
22         <li class="nav-item">
23           <a class="nav-link"
24             <?php if (isset($abstract)) {
25               echo "active";
26             } ?>" href="/?abstract"><i class="fab fa-artstation"></i> Abstract</a>
27         </li>
28         <li class="nav-item">
29           <a class="nav-link" href="https://tfkhdyt.my.id/" target="_blank"><i
   class="fas fa-user"></i> About Me</a>
30         </li>
31         <li class="nav-item">
32           <a class="nav-link" href="https://github.com/tfkhdyt/tugas-
   kuliah/tree/main/Semester%203/Pemrograman%20Berorientasi%20Objek/Interface%20dan%20
   Abstract/Source%20Code/PHP" target="_blank"><i class="fas fa-code"></i> Source
   Code</a>
33         </li>
34         <li class="nav-item">
35           <div class="form-check form-switch mt-2">
36             <label class="form-check-label" for="flexSwitchCheckDefault"
   style='color: <?= $_COOKIE["dark"] == "true" ? "#9B9D9E" : "#707071" ?>;'>Dark
   Theme</label>
37             <input class="form-check-input" type="checkbox" role="switch"
   id="flexSwitchCheckDefault" <?php if ($_COOKIE["dark"] == "true") echo "checked"; ?
   >>
38           </div>
39         </li>
40       </ul>
41     </div>
42   </div>
43 </nav>
44
```

```php
<?php
interface Motor {
    public const MAX_SPEED = 135;
    public const MIN_SPEED = 0;
    public function nyalakan();
    public function matikan();
    public function gas();
    public function rem();
    public function getStatus();
}

class Pengendara {
    private $motor;

    public function __construct($motor) {
        $this->motor = $motor;
    }

    public function menyalakanMotor() {
        $this->motor->nyalakan();
    }

    public function mematikanMotor() {
        $this->motor->matikan();
    }

    public function menggasMotor() {
        $this->motor->gas();
    }

    public function mengeremMotor() {
        $this->motor->rem();
    }

    public function mengecekStatus() {
        return $this->motor->getStatus();
    }
}

class Yamaha implements Motor {
    private $kecepatan, $apakahMotorMenyala;

    public function __construct($kecepatan, $power) {
        $this->kecepatan = $kecepatan;
        $this->apakahMotorMenyala = $power;
    }

    public function getKecepatan() {
        return $this->kecepatan;
    }

    public function getStatus() {
        return $this->apakahMotorMenyala;
    }

    public function cetakAlert($warna, $icon, $teks) {
        echo "
        <div class='alert alert-$warna alert-dismissible fade show mt-1 mb-3'
        role='alert'>
            <i class='fas fa-$icon'></i> $teks
            <button type='button' class='btn-close' data-bs-dismiss='alert' aria-
label='Close'></button>
        </div>
        ";
    }

    public function nyalakan() {
        $warna = "success";
        $icon = "toggle-on";
        $teks = "Motor sudah menyala, selamat berkendara!";
        $this->cetakAlert($warna, $icon, $teks);
    }
    public function matikan() {
        $warna = "danger";
        $icon = "toggle-off";
        $teks = "Motor sudah dimatikan!";
        $this->cetakAlert($warna, $icon, $teks);
    }
    public function gas() {
        $warna = "primary";
        if ($this->apakahMotorMenyala) {
            if ($this->getKecepatan() == Motor::MAX_SPEED) {
                $icon = "exclamation-triangle";
                $teks =
                    "Anda sudah mencapai kecepatan maksimum! Kecepatan saat ini: <b>" .
                    $this->getKecepatan() .
                    " km/h</b>";
            } else {
                $icon = "tachometer-alt";
                $teks = "Kecepatan saat ini: <b>" . $this->getKecepatan() . " km/h</b>";
            }
        } else {
            $icon = "power-off";
            $teks = "Motor masih mati, tolong nyalakan motor terlebih dahulu!";
        }
        $this->cetakAlert($warna, $icon, $teks);
    }
}
```

```php
 96  public function rem() {
 97      $warna = "warning";
 98      if ($this->apakahMotorMenyala) {
 99          if ($this->getKecepatan() == Motor::MIN_SPEED) {
100              $icon = "exclamation-triangle";
101              $teks = "Kecepatan saat ini: <b>0 km/h</b>";
102          } else {
103              $icon = "tachometer-alt";
104              $teks = "Kecepatan saat ini: <b>" . $this->getKecepatan() . " km/h</b>";
105          }
106      } else {
107          $icon = "power-off";
108          $teks = "Motor masih mati, tolong nyalakan motor terlebih dahulu!";
109      }
110      $this->cetakAlert($warna, $icon, $teks);
111  }
112 }
113
114 $power = $_GET["power"] == "on" ? true : false;
115 if ($_GET["kecepatan"] <= 0) {
116     $kecepatan = "0";
117 } elseif ($_GET["kecepatan"] >= 135) {
118     $kecepatan = "135";
119 } elseif ($_GET["kecepatan"]) {
120     $kecepatan = $_GET["kecepatan"];
121 } else {
122     $kecepatan = "0";
123 }
124
125 $nmax = new Yamaha($kecepatan, $power);
126 $taufik = new Pengendara($nmax);
127 $isPowerOn = $taufik->mengecekStatus() ? "&power=on" : "&power=off";
128 ?>
129 <div class="container">
130   <div class="row">
131     <div class="col col-md-12 m-3 mx-md-0 mb-2">
132       <h4 class="title">Interface Motor Yamaha</h4>
133       <?php switch ($_GET["menu"]) {
134         case "nyala":
135           $taufik->menyalakanMotor();
136           break;
137         case "mati":
138           $taufik->mematikanMotor();
139           break;
140         case "gas":
141           $taufik->menggasMotor();
142           break;
143         case "rem":
144           $taufik->mengeremMotor();
145           break;
146       } ?>
147     </div>
148   </div>
149   <div class="row">
150     <div class="col col-md-12 mx-2 mx-md-0">
151       <div class="row mx-auto">
152         <div class="col-12 col-md-6 <?php if ($_GET["power"] == "on") {
153           echo "d-none";
154         } ?>">
155           <a href="/?interface&menu=nyala&power=on" class="btn btn-success me-2 mb-4 p-2 long-button d-flex flex-column pt-3">
156             <i class="fas fa-toggle-on fa-3x mt-4"></i>
157             <p>
158               Nyalakan Motor
159             </p>
160           </a>
161         </div>
162         <div class="col-12 col-md-6 <?php if (
163           $_GET["power"] == "off" ||
164           empty($_GET["power"])
165         ) {
166           echo "d-none";
167         } ?>">
168           <a href="/?interface&menu=mati&power=off" class="btn btn-danger me-2 mb-4 p-2 long-button d-flex flex-column pt-3">
169             <i class="fas fa-toggle-off fa-3x mt-4"></i>
170             <p>
171               Matikan Motor
172             </p>
173           </a>
174         </div>
175         <div class="col-6 col-md-3 <?php if (
176           $_GET["power"] == "off" ||
177           empty($_GET["power"])
178         ) {
179           echo "d-none";
180         } ?>">
181           <a href="/?interface&menu=gas<?= $isPowerOn ?>&kecepatan=<?= $kecepatan + 5 ?>" class="btn btn-primary me-2 mb-3 p-2 big-button d-flex flex-column pt-3">
182             <i class="fas fa-plus fa-3x mt-4"></i>
183             <p>
184               Gas
185             </p>
186           </a>
187         </div>
188         <div class="col-6 col-md-3 <?php if (
189           $_GET["power"] == "off" ||
190           empty($_GET["power"])
191         ) {
192           echo "d-none";
193         } ?>">
194           <a href="/?interface&menu=rem<?= $isPowerOn ?>&kecepatan=<?= $kecepatan - 5 ?>" class="btn btn-warning me-2 mb-3 p-2 big-button d-flex flex-column pt-3">
195             <i class="fas fa-minus fa-3x mt-4"></i>
196             <p>
197               Rem
198             </p>
199           </a>
200         </div>
201       </div>
202     </div>
203   </div>
204 </div>
```

```php
1  <?php
2  abstract class BangunRuang {
3    abstract function getVolume();
4  }
5
6  class Kubus extends BangunRuang {
7    private $sisi;
8
9    public function __construct($sisi) {
10     $this->sisi = $sisi;
11   }
12
13   public function getVolume() {
14     return pow($this->sisi, 3);
15   }
16 }
17
18 class Balok extends BangunRuang {
19   private $panjang, $lebar, $tinggi;
20
21   public function __construct($panjang, $lebar, $tinggi) {
22     $this->panjang = $panjang;
23     $this->lebar = $lebar;
24     $this->tinggi = $tinggi;
25   }
26
27   public function getVolume() {
28     return $this->panjang * $this->lebar * $this->tinggi;
29   }
30 }
31 $sisi = "";
32 $panjang = "";
33 $lebar = "";
34 $tinggi = "";
35 $volume = "";
36 $hasil = "";
37 $mode = "";
38
39 if (isset($_POST["mode"])) {
40   switch ($_POST["mode"]) {
41     case "kubus":
42       $sisi = isset($_POST["sisi"]) ? $_POST["sisi"] : "";
43       $volume = new Kubus($sisi);
44       $hasil = $volume->getVolume() ?: "";
45       $mode = "kubus";
46       break;
47     case "balok":
48       $panjang = $_POST["panjang"] ?: "";
49       $lebar = $_POST["lebar"] ?: "";
50       $tinggi = $_POST["tinggi"] ?: "";
51       $volume = new Balok($panjang, $lebar, $tinggi);
52       $hasil = $volume->getVolume() ?: "";
53       $mode = "balok";
54       break;
55   }
56 }
57 ?>
58 <div class="container">
59   <div class="row">
60     <div class="col col-md-12 m-3 mx-md-0 mb-2">
61       <h4 class="title">Abstract Volume Bangun Ruang</h4>
62     </div>
63   </div>
64   <div class="row">
65     <div class="col col-md-12 mx-3 mx-md-0">
66       <form action="/?abstract" method="POST">
67         <div class="mode">
68           <label class="_label">Pilih jenis bangun ruang:</label>
69           <div class="form-check ms-3">
70             <input class="form-check-input" type="radio" name="bangunRuang"
   id="kubus" value="kubus">
71             <label class="form-check-label _label" for="kubus">
72               Kubus
73             </label>
74           </div>
75           <div class="form-check ms-3">
76             <input class="form-check-input" type="radio" name="bangunRuang"
   id="balok" value="balok">
77             <label class="form-check-label _label" for="balok">
78               Balok
79             </label>
80           </div>
81           <input type="hidden" name="mode">
82         </div>
83         <hr />
84         <div class="formKubus mt-2 col-md-6">
85           <label for="sisi" class="form-label _label">Sisi</label>
86           <div class="input-group mb-3">
87             <input type="number" step="any" class="form-control" placeholder=" "
   id="sisi" name="sisi" value="<?= $sisi ?>">
88             <span class="input-group-text">cm</span>
89           </div>
90         </div>
91         <div class="formBalok mt-2 d-none col-md-12">
92           <div class="row">
93             <div class="col-md-4">
94               <label for="panjang" class="form-label _label">Panjang</label>
95               <div class="input-group mb-3">
96                 <input type="number" step="any" class="form-control" placeholder=
   " " id="panjang" name="panjang" value="<?= $panjang ?>">
97                 <span class="input-group-text">cm</span>
98               </div>
99             </div>
```

```html
            <div class="col-md-4">
                <label for="lebar" class="form-label _label">Lebar</label>
                <div class="input-group mb-3">
                    <input type="number" step="any" class="form-control" placeholder="
" id="lebar" name="lebar" value="<?= $lebar ?>">
                    <span class="input-group-text">cm</span>
                </div>
            </div>
            <div class="col-md-4">
                <label for="tinggi" class="form-label _label">Tinggi</label>
                <div class="input-group mb-3">
                    <input type="number" step="any" class="form-control" placeholder="
" id="tinggi" name="tinggi" value="<?= $tinggi ?>">
                    <span class="input-group-text">cm</span>
                </div>
            </div>
        </div>
    </div>
    <button type="submit" class="btn btn-primary"><i class="fas fa-calculator">
</i> Hitung</button>
    </form>
    <hr />
    <div class="col-md-6">
        <label class="_label">Output</label>
        <div class="input-group mb-3 mt-2">
            <input type="text" class="form-control" placeholder=" " id="hasil"
name="hasil" readonly>
            <span class="input-group-text">cm³</span>
        </div>
    </div>
  </div>
</div>
</div>
<script>
  const radio = document.querySelector(".mode");
  const kubus = document.querySelector("#kubus");
  const balok = document.querySelector("#balok");
  const hasil = document.querySelector("#hasil");
  const formKubus = document.querySelector(".formKubus");
  const formBalok = document.querySelector(".formBalok");
  const mode = document.querySelector("input[type='hidden']");

  const formatNumber = (num) => {
    return num.toString().replace(/(\d)(?=(\d{3})+(?!\d))/g, '$1.')
  }
  hasil.value = formatNumber('<?= $hasil ?>');

  if ("<?= $mode ?>" == "kubus") {
    kubus.checked = true;
    balok.checked = false;
    mode.value = "kubus";
  } else if ("<?= $mode ?>" == "balok") {
    kubus.checked = false;
    balok.checked = true;
    formKubus.classList.add("d-none");
    formBalok.classList.remove("d-none");
    mode.value = "balok";
  } else {
    kubus.checked = true;
    balok.checked = false;
    mode.value = "kubus";
  }

  radio.addEventListener('click', (e) => {
    switch (e.target.id) {
      case 'kubus':
        formKubus.classList.remove("d-none");
        formBalok.classList.add("d-none");
        mode.value = "kubus";
        break;
      case 'balok':
        formKubus.classList.add("d-none");
        formBalok.classList.remove("d-none");
        mode.value = "balok";
        break;
    }
  });
</script>
```