

[illegible]

simulasi.

2.

Hardware dan diagram blok

[back]

- Arduino Uno

Ardu

Dipswitch

LCD

IC PCF 8574

arial; font-size: medium;"><div class="separator" style="clear: both; text-align: center;"></div>

</div><div>
</div><div>- Potensimeter</div><div><div class="separator" style="clear: both; text-align: center;"></div>

</div><div>
</div><div>- Motor</div><div><div class="separator" style="clear: both; text-align: center;"></div>
</div><ul style="text-align: left;">Diagram blok<div><a href="https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEjd5vdM7-_MTSIYYpatTD4OB3ufXNs60m5_wpXdYnB6A8Xrj9G1S1xA1WITaczdIKHva9mdt4YDWY2AdkUF4Z2GWTs2mz4C6dXmcfQ1CZJivrWnSEB4dFFJ-iaDt4IGjRqIJ57Ooul6FDAPriBoamYRm6onFI8Owj5ySW9n8dlxHSPK1tfP0NuZ42oHnc/s1067/WhatsApp%20Image%202024-03-18%20at%2014.01.50_23c9b597.jpg" style="background: rgb(255, 255, 255); color: #0d2ff2; font-family: times; font-size: 15px; margin-left: 1em; margin-right: 1em; outline: 0px;

text-align: center; text-decoration-line: none;"></div><div>
</div>
</div><div>
</div><div>3. Rangkaian Simulasi dan Prinsip Kerja <b style="color: #757575;"> <b style="color: #757575;">[back]</div><div>
</div><div><div class="separator" style="clear: both; text-align: center;"></div>

</div><div>4. Flowchart dan Listing Program <b style="color: #757575;"> <b style="color: #757575;">[back]</div><div><ul style="text-align: left;">Flowchart</div><div> </div><div><ul style="text-align: left;">Listing Program</div><div style="background-color: white; color: #4e5b61; font-family: Consolas, "Courier New", monospace; font-size: 14px; line-height: 19px; white-space: pre;"><div>#include

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    &nbsp;<span style="color: #005c5f;">&lt;LiquidCrystal_I2C.h&gt;</span></div><br />
</div><span style="color: #728e00;">#define</span> <span style="color: #d35400;">tombol</span> <span style="color: #005c5f;">2</span><span style="color: #95a5a6;"> &nbsp;   // pin 2 (pin interrupt) bernama tombol</span></div><div><span style="color: #728e00;">#define</span> <span style="color: #d35400;">motorPin</span> <span style="color: #005c5f;">11</span><span style="color: #95a5a6;"> &nbsp;   // pin 11 untuk motor</span></div><br />
<div><span style="color: #728e00;">#define</span> <span style="color: #d35400;">motorDelay</span> <span style="color: #005c5f;">500</span><span style="color: #95a5a6;"> // Waktu rotasi motor dalam milidetik</span></div>
<div><span style="color: #728e00;">#define</span> <span style="color: #d35400;">stopDelay</span> <span style="color: #005c5f;">300</span><span style="color: #95a5a6;"> &nbsp;   // Waktu motor berhenti dalam milidetik</span></div>
<div><span style="color: #728e00;">#define</span> <span style="color: #d35400;">restartDelay</span> <span style="color: #005c5f;">700</span><span style="color: #95a5a6;"> // Waktu sebelum penghitungan dimulai ulang dalam milidetik</span></div>
<br />
<div><span style="color: #00979d;">volatile</span> <span style="color: #00979d;">int</span> count = <span style="color: #005c5f;">50</span><span style="color: #95a5a6;"> // Mulai dari 50</span></div>
<br />
<div>LiquidCrystal_I2C <span style="color: #d35400;">lcd</span><span style="color: #434f54;">(</span>0<span style="color: #005c5f;">27</span>, <span style="color: #005c5f;">16</span>, <span style="color: #005c5f;">2</span><span style="color: #434f54;">)</span></div>
<br />
<div><span style="color: #00979d;">void</span> <span style="color: #d35400;">setup</span><span style="color: #434f54;">(</span>)<span style="color: #434f54;">{</span></div>
<div>&nbsp;  <span style="color: #d35400;">lcd</span>.<span style="color: #d35400;">init</span><span style="color: #434f54;">(</span>)<span style="color: #434f54;">}</span></div>
<div>&nbsp;  <span style="color: #d35400;">lcd</span>.<span style="color: #d35400;">backlight</span><span style="color: #434f54;">(</span>)<span style="color: #434f54;">}</span></div>
<div>&nbsp;  <span style="color: #d35400;">pinMode</span><span style="color: #434f54;">(</span>tombol, INPUT<span style="color: #434f54;">)</span></div>
<div>&nbsp;  <span style="color: #d35400;">pinMode</span><span style="color: #434f54;">(</span>motorPin, OUTPUT<span style="color: #434f54;">)</span></div>
<div>&nbsp;  <span style="color: #d35400;">attachInterrupt</span><span style="color: #434f54;">(</span><span style="color: #d35400;">digitalPinToInterrupt</span><span style="color: #434f54;">(</span><span style="color: #005c5f;">2</span><span style="color: #434f54;">)</span>, tombol_ditekan, FALLING<span style="color: #434f54;">)</span></div>
<div><span style="color: #434f54;">}</span></div>
<div><span style="color: #00979d;">void</span> <span style="color: #d35400;">loop</span><span style="color: #434f54;">(</span>)<span style="color: #434f54;">{</span><span style="color: #95a5a6;"> // Main Program</span></div>
<div><span style="color: #95a5a6;"> &nbsp;   // Rotasi motor ke kanan selama 5 detik</span></div>
<div>&nbsp;  <span style="color: #d35400;">digitalWrite</span><span style="color: #434f54;">(</span>motorPin, HIGH<span style="color: #434f54;">)</span></div>
<div>&nbsp;  <span style="color: #d35400;">delay</span><span style="color: #434f54;">(</span>motorDelay<span style="color: #434f54;">)</span></div>
<br />
<div><span style="color: #95a5a6;"> &nbsp;   // Stop motor selama 3 detik</span></div>
<div>&nbsp;  <span style="color: #d35400;">digitalWrite</span><span style="color: #434f54;">(</span>motorPin, LOW<span style="color: #434f54;">)</span></div>

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style="color: #434f54;")</span>;</div><div>&nbsp; <span style="color:
#d35400;">delay</span><span style="color: #434f54;">(</span>stopDelay<span
style="color: #434f54;">)</span>;</div><br /><div><span style="color: #95a5a6;">&nbsp; </span> //
Rotasi motor ke kiri selama 5 detik</span></div><div>&nbsp; <span style="color:
#d35400;">digitalWrite</span><span style="color: #434f54;">(</span>motorPin, HIGH<span
style="color: #434f54;">)</span>;</div><div>&nbsp; <span style="color:
#d35400;">delay</span><span style="color: #434f54;">(</span>motorDelay<span
style="color: #434f54;">)</span>;</div><br /><div><span style="color: #95a5a6;">&nbsp; </span> //
Stop motor selama 3 detik</span></div><div>&nbsp; <span style="color:
#d35400;">digitalWrite</span><span style="color: #434f54;">(</span>motorPin, LOW<span
style="color: #434f54;">)</span>;</div><div>&nbsp; <span style="color:
#d35400;">delay</span><span style="color: #434f54;">(</span>stopDelay<span
style="color: #434f54;">)</span>;</div><br /><div><span style="color: #95a5a6;">&nbsp; </span> //
LCD menampilkan counting dari 50 sampai 0</span></div><div>&nbsp; <span style="color:
#d35400;">lcd</span>.<span style="color: #d35400;">setCursor</span><span style="color:
#434f54;">(</span><span style="color: #005c5f;">0</span>, <span style="color:
#005c5f;">0</span><span style="color: #434f54;">)</span>;</div><div>&nbsp; <span
style="color: #d35400;">lcd</span>.<span style="color: #d35400;">print</span><span
style="color: #434f54;">(</span><span style="color: #005c5f;">"Count: "</span><span
style="color: #434f54;">)</span>;</div><div>&nbsp; <span style="color:
#d35400;">lcd</span>.<span style="color: #d35400;">setCursor</span><span style="color:
#434f54;">(</span><span style="color: #005c5f;">0</span>, <span style="color:
#005c5f;">1</span><span style="color: #434f54;">)</span>;</div><div>&nbsp; <span
style="color: #d35400;">lcd</span>.<span style="color: #d35400;">print</span><span
style="color: #434f54;">(</span>count<span style="color:
#434f54;">)</span>;</div><div>&nbsp; </div><div><span style="color: #95a5a6;">&nbsp; </span> //
Pengurangan integer count dengan angka 1</span></div><div>&nbsp; <span
style="color: #005c5f;">1</span>;</div><br /><div><span style="color: #95a5a6;">&nbsp; </span> //
Jika count mencapai 0, reset kembali ke 50 dan tunggu 3 detik</span></div><div>&nbsp;
<span style="color: #728e00;">if</span> <span style="color: #434f54;">(</span>count &lt;
<span style="color: #005c5f;">0</span><span style="color: #434f54;">)</span> <span
style="color: #434f54;">{</span></div><div>&nbsp; &nbsp; <span style="color:
#005c5f;">50</span>;</div><div>&nbsp; &nbsp; <span style="color:
#d35400;">delay</span><span style="color: #434f54;">(</span>stopDelay<span
style="color: #434f54;">)</span>;</div><div>&nbsp; <span style="color:
#434f54;">}</span></div><div><span style="color: #434f54;">}</span></div><br
/><div><span style="color: #95a5a6;">&nbsp; </span> // Fungsi interrupt tombol
ditekan</span></div><div><span style="color: #00979d;">void</span> <span style="color:
#d35400;">tombol_ditekan</span><span style="color: #434f54;">()</span> <span
style="color: #434f54;">{</span></div><div>&nbsp; <span style="color:
#005c5f;">50</span>;<span style="color: #95a5a6;">&nbsp; </span> // Mengatur ulang
hitungan</span></div><div>&nbsp; <span style="color: #d35400;">delay</span><span
style="color: #434f54;">(</span>restartDelay<span style="color:
#434f54;">)</span>;</div><div><span style="color: #434f54;">}</span></div><br
/></div></div></div><b><span style="font-family: arial; font-size: medium;"><span
face="Roboto, sans-serif" style="color: #757575;">&nbsp; </span></span><span
face="Roboto, sans-serif" style="color:
#757575;">&nbsp; </span></span></b></div><div><b><span style="color: #757575;

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