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<div style="text-align: center;"><a
href="https://syarif213034.blogspot.com/2023/06/kembali-ke-menu-sebelumnya-daftar-isi-1.
html">[KEMBALI KE MENU SEBELUMNYA]</a></div>
<center>
<div style="background-color: white; border: 2px dashed rgb(23, 128, 221); height: 240px;
overflow: auto; padding: 10px; text-align: center; width: 330px;">
<b><a name="home">DAFTAR ISI</a></b>
<br />
<div style="text-align: left;">
<a href="#p">1. Prosedur</a></div>
<div style="text-align: left;">
<a href="#hd">2. Hardware dan Diagram Blok</a></div>
<div style="text-align: left;">
<a href="#r">3. Rangkaian Simulasi dan Prinsip Kerja</a></div>
<div style="text-align: left;">
<a href="#fp">4. Flowchart dan Listing Program</a></div>
<div style="text-align: left;">
<a href="#k">5. Kondisi</a></div>
<div style="text-align: left;">
<a href="#v">6. Video Demo</a></div>
<div style="text-align: left;">
<a href="#d">7. Link Download</a></div>
<div style="text-align: left;">
</div></div>
<h1 style="text-align: center;"><b style="text-align: left;"><span style="font-family: inherit;
font-size: medium;"><span>Percobaan II</span></span></b></h1><h3 style="text-align:
justify;"><span style="font-size: small;"><b style="background-color: white; font-family:
times, &quot;times new roman&quot;, serif; text-align: start;"><a name="p">1.
Prosedur&nbsp;</a></b><span style="background-color: white; font-family: times,
&quot;times new roman&quot;, serif; font-weight: 400; text-align: start;"><a
name="Prosedur" style="background-color: white; font-family: times, &quot;times new
roman&quot;, serif; font-weight: 400; text-align: start;"></a><span style="background-color:
white; font-family: times, &quot;times new roman&quot;, serif; font-weight: 400; text-align:
start;"></span><a href="#top" style="background-color: white; font-family: times, &quot;times
new roman&quot;, serif; font-weight: 400; text-align: start; text-decoration-line: none;"><span
style="color: #2b00fe;">[Kembali]</span></a></span></h3><div style="text-align:
left;"><span face="Arial, Tahoma, Helvetica, FreeSans, sans-serif" style="background-color:
white; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 13.2px;">1.
Rangkai rangkaian di proteus sesuai dengan kondisi percobaan.</span><br
style="background-color: white; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif;
font-size: 13.2px;" /><span face="Arial, Tahoma, Helvetica, FreeSans, sans-serif"
style="background-color: white; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif;
font-size: 13.2px;">2. Tulis program untuk arduino di software Arduino IDE.</span><br
style="background-color: white; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif;
font-size: 13.2px;" /><span face="Arial, Tahoma, Helvetica, FreeSans, sans-serif"
style="background-color: white; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif;
font-size: 13.2px;">3. Compile program tadi, lalu upload ke dalam arduino.</span><br
style="background-color: white; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif;

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font-size: 13.2px;" />4. Setelah program selesai di upload, jalankan simulasi rangkaian pada proteus.</div><h3 style="text-align: justify;"><b style="background-color: white; font-family: times, "times new roman", serif; text-align: start;">2. Hardware dan Diagram Blok [Kembali]</h3><div style="text-align: justify;"><div>Hardware:</div><div>
</div><div>1. Arduino Uno</div><div>
</div><div class="separator" style="clear: both; text-align: center;"></div><div class="separator" style="clear: both; text-align: center;">
</div><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both;"></div><div class="separator" style="clear: both;">
</div><div>2. Dip Switch</div><div>
</div><div class="separator" style="clear: both; text-align: center;"></div>
</div>
</div><div class="separator" style="clear: both; text-align: center;"></div><div>
</div><div>3.7 Segment 2 Digit</div><div>
</div><div class="separator" style="clear: both; text-align: center;"></div><div class="separator" style="clear: both; text-align: center;"></div><div class="separator" style="clear: both; text-align: center;">
</div><div>
</div><div>4. Resistor</div><div>
</div><div class="separator" style="clear: both; text-align: center;"><a href="https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEhmVh-5JnrZHa6U0RiqxQuOr2ilF0Qp6XYbvQhjHw_zjD2ZtvKC4yBEsKmVgS_AbUBbyNQSkiCHSVoDyf9HG5mi5a

bUiJUa5PqwKpoMmy-KgS2ifcQ1_r9JUqscB732RBdNbwp_BvjCTerAgIKPgOyt3Ug_o4WKglcd8fr3kB1hGNbeyNfoHwWHz-n8FQl/s299/res.jpeg" style="color: #280f53; margin-left: 1em; margin-right: 1em; text-decoration-line: none;"></div><div class="separator" style="clear: both; text-align: center;"></div>
<div>
</div><div>Block Diagram:</div><div><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: center;"></div>

</div></div><h3 style="text-align: justify;"><b style="background-color: white; font-family: times, "times new roman", serif; text-align: start;">3. Rangkaian Simulasi dan Prinsip Kerja [Kembali]</h3><div><div class="separator" style="clear: both; text-align: center;">
</div><div class="separator" style="clear: both; text-align: center;"></div>

</div><h3
style="text-align: justify;"><div style="background-color: white; font-family: Arial, Tahoma,
Helvetica, FreeSans, sans-serif; font-weight: 400; text-align: start;"><span style="font-size:
small;">4. Flowchart dan Listing Program <a href="#top"
style="font-family: times, "times new roman"; serif; text-decoration-line:
none;">[Kembali]</div><div
style="background-color: white; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif;
font-weight: 400; text-align: start;">
</div><div style="background-color: white;
font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-weight: 400; text-align:
start;"><div><span style="font-family: times, "times new roman";
serif;">Flowchart :</div><div><span style="font-family: times, "times new
roman"; serif;">
</div><div class="separator" style="clear: both;
text-align: center;"><a
href="https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEhx1CLMpjmC9jQpgkB
Bh1Zb2KZfYXPZpZHo1DzgvmNTb0DaDNGVwW8PDyEp7EHIVJu8NhpSwpK2S56WmGD_
q88xxeV2oUu0BjMdesLibkApSe65Z37D7OZk6a9MxN2k92IA_yS5J8-QkMP-5XOvE1XBQN
M__xq1ycp5wS5KrTZFi_cmO9zc-qFQ4O7XjKk/s958/Start.jpg" style="color: #280f53;
margin-left: 1em; margin-right: 1em; text-decoration-line: none;"></div><div
class="separator" style="clear: both; text-align: center;">
</div><div><span
style="font-family: times, "times new roman"; serif;">
</div><div><span style="font-family: times, "times new roman";
serif;">Listing Program:</div><div><div><span style="font-family: times, times new
roman, serif;">#define a 6</div><div><span style="font-family: times, times new
roman, serif;">#define b 7</div><div><span style="font-family: times, times new
roman, serif;">#define c 8</div><div><span style="font-family: times, times new
roman, serif;">#define d 9</div><div><span style="font-family: times, times new
roman, serif;">#define e 10</div><div><span style="font-family: times, times new
roman, serif;">#define f 11</div><div><span style="font-family: times, times new
roman, serif;">#define g 12</div><div><span style="font-family: times, times new
roman, serif;">#define dp 13</div><div><span style="font-family: times, times new
roman, serif;">#define D1 4</div><div><span style="font-family: times, times new
roman, serif;">#define D2 5</div><div><span style="font-family: times, times new
roman, serif;">#define Dsw1 A0</div><div><span style="font-family: times, times
new roman, serif;">#define Dsw2 A1</div><div><span style="font-family: times,
times new roman, serif;">#define Dsw3 A2</div><div><span style="font-family:
times, times new roman, serif;">#define Dsw4 A3</div><div><span

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times, times new roman, serif;"><br /></span></div><div><span
style="font-family: times, times new roman, serif;">int segments[] = {a, b, c, d, e, f,
g};</span></div><div><span style="font-family: times, times new roman, serif;">byte
digitPatterns[16][7] = {</span></div><div><span style="font-family: times, times new roman,
serif;"> &nbsp; &nbsp; {1, 1, 1, 1, 1, 0}, // 0</span></div><div><span style="font-family:
times, times new roman, serif;"> &nbsp; &nbsp; {0, 1, 1, 0, 0, 0}, //
1</span></div><div><span style="font-family: times, times new roman, serif;"> &nbsp; &nbsp;
&nbsp; &nbsp; {1, 1, 0, 1, 1, 0, 1}, // 2</span></div><div><span style="font-family: times, times new
roman, serif;"> &nbsp; &nbsp; {1, 1, 1, 1, 0, 0, 1}, // 3</span></div><div><span
style="font-family: times, times new roman, serif;"> &nbsp; &nbsp; {0, 1, 1, 0, 0, 1, 1}, //
4</span></div><div><span style="font-family: times, times new roman, serif;"> &nbsp; &nbsp;
&nbsp; &nbsp; {1, 0, 1, 1, 0, 1, 1}, // 5</span></div><div><span style="font-family: times, times new
roman, serif;"> &nbsp; &nbsp; {1, 0, 1, 1, 1, 1, 1}, // 6</span></div><div><span
style="font-family: times, times new roman, serif;"> &nbsp; &nbsp; {1, 1, 1, 0, 0, 0, 0}, //
7</span></div><div><span style="font-family: times, times new roman, serif;"> &nbsp; &nbsp;
&nbsp; &nbsp; {1, 1, 1, 1, 1, 1, 1}, // 8</span></div><div><span style="font-family: times, times new
roman, serif;"> &nbsp; &nbsp; {1, 1, 1, 1, 0, 1, 1}, // 9</span></div><div><span
style="font-family: times, times new roman, serif;"> &nbsp; &nbsp; {0, 0, 0, 0, 0, 0, 1}, //
dp</span></div><div><span style="font-family: times, times new roman, serif;"> &nbsp; &nbsp;
{0, 0, 0, 0, 0, 0, 0}, // empty</span></div><div><span style="font-family: times, times
new roman, serif;">;</span></div><div><span style="font-family: times, times new roman,
serif;"><br /></span></div><div><span style="font-family: times, times new roman,
serif;">void setup() {</span></div><div><span style="font-family: times, times new roman,
serif;"> &nbsp; &nbsp; for (int i = 0; i &lt;= 7; i++) {</span></div><div><span style="font-family:
times, times new roman, serif;"> &nbsp; &nbsp; &nbsp; pinMode(segments[i],
OUTPUT);</span></div><div><span style="font-family: times, times new roman,
serif;"> &nbsp; &nbsp; }</span></div><div><span style="font-family: times, times new roman,
serif;"> &nbsp; &nbsp; pinMode(dp, OUTPUT);</span></div><div><span style="font-family:
times, times new roman, serif;"> &nbsp; &nbsp; pinMode(D1,
OUTPUT);</span></div><div><span style="font-family: times, times new roman,
serif;"> &nbsp; &nbsp; pinMode(D2, OUTPUT);</span></div><div><span style="font-family:
times, times new roman, serif;"> &nbsp; &nbsp; pinMode(Dsw1,
INPUT_PULLUP);</span></div><div><span style="font-family: times, times new roman,
serif;"> &nbsp; &nbsp; pinMode(Dsw2, INPUT_PULLUP);</span></div><div><span
style="font-family: times, times new roman, serif;"> &nbsp; &nbsp; pinMode(Dsw3,
INPUT_PULLUP);</span></div><div><span style="font-family: times, times new roman,
serif;"> &nbsp; &nbsp; pinMode(Dsw4, INPUT_PULLUP);</span></div><div><span
style="font-family: times, times new roman, serif;"> &nbsp; &nbsp;
Serial.begin(9600);</span></div><div><span style="font-family: times, times new roman,
serif;">}</span></div><div><span style="font-family: times, times new roman, serif;"><br
/></span></div><div><span style="font-family: times, times new roman, serif;">void
displayDigit(int digit, int digitPosition) {</span></div><div><span style="font-family: times,
times new roman, serif;"> &nbsp; &nbsp; for (int i = 0; i &lt;= 7; i++) {</span></div><div><span
style="font-family: times, times new roman, serif;"> &nbsp; &nbsp; &nbsp; digitalWrite(segments[i], digitPatterns[digit][i]);</span></div><div><span style="font-family:
times, times new roman, serif;"> &nbsp; &nbsp; }</span></div><div><span style="font-family:
times, times new roman, serif;"> &nbsp; &nbsp; // Aktifkan digit yang
sesuai</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
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&nbsp; if (digitPosition == D1) {</span></div><div><span style="font-family: times, times
new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; digitalWrite(D1,
HIGH);</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; &nbsp; digitalWrite(D2, LOW);</span></div><div><span style="font-family:
times, times new roman, serif;">&nbsp; &nbsp; &nbsp; } else if (digitPosition == D2)
{</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp; &nbsp; &nbsp;
&nbsp; &nbsp; &nbsp; digitalWrite(D1, LOW);</span></div><div><span style="font-family: times,
times new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; digitalWrite(D2,
HIGH);</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; }</span></div><div><span style="font-family: times, times new roman,
serif;"></span></div><div><span style="font-family: times, times new roman, serif;"><br
/></span></div><div><span style="font-family: times, times new roman, serif;">void
displayNumber(int number) {</span></div><div><span style="font-family: times, times new
roman, serif;">&nbsp; &nbsp; &nbsp; if (number &lt; 10) {</span></div><div><span
style="font-family: times, times new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp;
digitalWrite(D1, HIGH);</span></div><div><span style="font-family: times, times new roman,
serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; digitalWrite(D2, LOW);</span></div><div><span
style="font-family: times, times new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp;
displayDigit(0, D2); // Menampilkan angka 0 pada digit kedua (D2)</span></div><div><span
style="font-family: times, times new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp;
displayDigit(number, D1); // Menampilkan angka pada digit pertama
(D1)</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; } else {</span></div><div><span style="font-family: times, times new roman,
serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; digitalWrite(D1, HIGH);</span></div><div><span
style="font-family: times, times new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp;
digitalWrite(D2, HIGH);</span></div><div><span style="font-family: times, times new roman,
serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; int tensDigit = number / 10; // Digit
puluhan</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; int unitsDigit = number % 10; // Digit satuan</span></div><div><span
style="font-family: times, times new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp;
displayDigit(tensDigit, D2); // Menampilkan digit puluhan pada digit kedua
(D2)</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; delay(100); // Delay untuk menampilkan digit
puluhan</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; displayDigit(unitsDigit, D1); // Menampilkan digit satuan pada digit
pertama (D1)</span></div><div><span style="font-family: times, times new roman,
serif;">&nbsp; &nbsp; &nbsp; }</span></div><div><span style="font-family: times, times new roman,
serif;">&nbsp; &nbsp; &nbsp; delay(1000); // Delay agar Anda bisa melihat perubahan
digit</span></div><div><span style="font-family: times, times new roman,
serif;"></span></div><div><span style="font-family: times, times new roman, serif;"><br
/></span></div><div><span style="font-family: times, times new roman, serif;">void loop()
{</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp; &nbsp; &nbsp;
bool sw1 = digitalRead(Dsw1) == LOW;</span></div><div><span style="font-family: times,
times new roman, serif;">&nbsp; &nbsp; &nbsp; bool sw2 = digitalRead(Dsw2) ==
LOW;</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; bool sw3 = digitalRead(Dsw3) == LOW;</span></div><div><span style="font-family:
times, times new roman, serif;">&nbsp; &nbsp; &nbsp; bool sw4 = digitalRead(Dsw4) ==
LOW;</span></div><div><span style="font-family: times, times new roman, serif;"><br

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/></span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; int pressedCount = sw1 + sw2 + sw3 + sw4;</span></div><div><span
style="font-family: times, times new roman, serif;"><br /></span></div><div><span
style="font-family: times, times new roman, serif;">&nbsp; &nbsp; static unsigned long
lastTime = 0; // Waktu terakhir pembacaan tombol</span></div><div><span
style="font-family: times, times new roman, serif;">&nbsp; &nbsp; static int count = 15; //
Counter untuk digit</span></div><div><span style="font-family: times, times new roman,
serif;"><br /></span></div><div><span style="font-family: times, times new roman,
serif;">&nbsp; &nbsp; if (pressedCount == 2) {</span></div><div><span style="font-family:
times, times new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; if (millis() - lastTime >
1000) { // Debouncing</span></div><div><span style="font-family: times, times new roman,
serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; lastTime =
millis();</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; if (count >= 10) { // Angka 10 hingga
15</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; displayNumber(count);</span></div><div><span style="font-family: times, times new roman,
serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; } else { // Angka 0 hingga
9</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; displayDigit(0, D2); // Menampilkan
angka 0 pada digit kedua (D2)</span></div><div><span style="font-family: times, times new
roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; displayDigit(count, D1); // Menampilkan angka pada digit pertama
(D1)</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; delay(1000); // Delay agar Anda bisa
melihat perubahan digit</span></div><div><span style="font-family: times, times new
roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; }</span></div><div><span
style="font-family: times, times new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; count--;</span></div><div><span style="font-family: times, times new roman,
serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; if (count < 0)
{</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp; &nbsp;
&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; count = 15;</span></div><div><span
style="font-family: times, times new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; }</span></div><div><span style="font-family: times, times new roman, serif;">&nbsp;
&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; }</span></div><div><span style="font-family: times, times new
roman, serif;">&nbsp; &nbsp; &nbsp; } else {</span></div><div><span style="font-family: times,
times new roman, serif;">&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; count = 15; // Reset count jika tidak
ada dua tombol yang ditekan</span></div><div><span style="font-family: times, times new
roman, serif;">&nbsp; &nbsp; &nbsp; }</span></div><div style="font-family: times, &quot;times new roman&quot;,
serif;"><br /></div></div></div></h3><h3 style="text-align: justify;"><div
style="background-color: white; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif;
font-weight: 400; text-align: start;"><span style="font-size: small;"><b style="font-family:
times, &quot;times new roman&quot;, serif;"><a name="k">5. Kondisi&nbsp;</a></b><a
href="#top" style="font-family: times, &quot;times new roman&quot;, serif;
text-decoration-line: none;"><span style="color:
#2b00fe;">[Kembali]</span></a></span></div><div style="background-color: white;
font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-weight: 400; text-align:

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[illegible]