

```

<a name="home">
</a>
<br />
<div style="text-align: center;">
<a href="http://muhammaddimas211006.blogspot.com">[KEMBALI KE MENU
SEBELUMNYA]</a></div>
<br />
<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>DAFTAR ISI</b>
<br />
<div style="text-align: left;">
<a href="#Prosedur">1. Prosedur</a></div>
<div style="text-align: left;">
<a href="#Hardware">2. Hardware dan Diagram Blok</a></div>
<div style="text-align: left;">
<a href="#Rangkaian">3. Rangkaian Simulasi dan Prinsip Kerja</a></div>
<div style="text-align: left;">
<a href="#Flowchart">4. Flowchart dan Listing Program</a></div>
<div style="text-align: left;">
<a href="#Kondisi">5. Kondisi</a></div>
<div style="text-align: left;">
<a href="#Simulasi">6. Video Simulasi</a></div>
<div style="text-align: left;">
<a href="#Download">7. Download File</a><br />
</div><div style="text-align: left;"><br /></div>
</div>
</center>
<span style="font-family: &quot;times&quot; , &quot;times new roman&quot; , serif;"><span
style="font-family: &quot;times&quot; , &quot;times new roman&quot; , serif;"><b><div
style="font-size: medium;"><span style="font-family: &quot;times&quot; , &quot;times new
roman&quot; , serif;"><span style="font-family: &quot;times&quot; , &quot;times new
roman&quot; , serif; font-size: small;"><b><br /></b></span></span></div><div
style="text-align: center;"><span style="font-size: medium;">Tugas Pendahuluan 1 Modul
1</span></div><div style="text-align: center;"><span style="font-size: medium;">(Percobaan
3 Kondisi 2)</span></div><div style="font-size: medium; text-align: center;"><span
style="font-family: &quot;times&quot; , &quot;times new roman&quot; , serif;"><span
style="font-family: &quot;times&quot; , &quot;times new roman&quot; , serif; font-size:
small;"><b><br /></b></span></span></div>1. Prosedur </b>
<a name="Prosedur"></a>
<a href="#home" style="font-size: medium;">[Kembali]</a></span></span><div><span
style="font-family: times, times new roman, serif;"><br /></span><div><div
style="background-color: white; border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"><span style="font-family: inherit;">1. Rangkai rangkaian di proteus sesuai dengan
kondisi percobaan.<br />2. Tulis program untuk arduino di software Arduino IDE.<br />3.
Compile program tadi, lalu upload ke dalam arduino.<br />4. Setelah program selesai di

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upload, jalankan simulasi rangkaian pada proteus.</div><div style="background-color: white; border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;">5. Selesai.</div><div>
</div><div><div>2. Hardware dan Diagram Blok [Kembali]</div><div>
</div><div>Hardware</div><div>
</div><div>a) Arduino Uno</div><div class="separator" style="background-color: white; clear: both; font-size: 13.2px; text-align: center;"></div><div style="background-color: white; font-size: 13.2px;">
</div><div style="background-color: white; font-size: 13.2px;">
</div><div style="background-color: white;"><div class="separator" style="clear: both; font-size: 13.2px; text-align: center;"></div><div style="font-size: 13.2px;">
</div>2. Dip Switch</div><div style="background-color: white; font-size: 13.2px;">
</div><div class="separator" style="background-color: white; clear: both; font-size: 13.2px; text-align: center;">
</div>

[!\[\]\(cead67df4d82d6c83effe4f8699a7d8f_img.jpg\)](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEgeinUXtqcCzCDwucG oTOoo5rwyXFpbJeOj4E7IsDdxGTKhZ_L09zdYJtDlekUaT2na0mRlpahme6bl9kKv_UeEYU_g7xvciNck6Difrl0B4dtk0QpKqQtK_QbGfdbTUT7FXIZ7dDv48wd9_N1WY0Sk7eXK5mCyuDpja1ZT88HnkZBh2EJS9oyXE5s2o/s600/dip-switch-8-posisi-344019.jpg)

[!\[\]\(67433ad4a135c113d9a9c29aff5e5943_img.jpg\)](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEjf0oZIBZ_xjCXT3MwVv gRxKrPaMGVbzEYeMUTwmiOtNEPN8NpwnpUY_STmUnbulDXLUqvnYWKq5mhnB-8VV0I CjasBt0Ew151ehn5ZzXEj9tdMoDJvXw4qprtYaSPAfkjVs8YP422C6BBzAkLNyJOYfYZcjPik5 QZsom_O0A7iznFUXky0yGSDBGnYshs/s318/Dip%20SW.PNG)

[!\[\]\(224f6e2d313753bf4040edb5ba29eeab_img.jpg\)](https://blogger.googleusercontent.com/img/a/AVvXsEgDN6j6tYyhG1q7gQUi3UQaen8 SLrVmDVv4rIRCFXRDr2IRxolunIHSmTMTtHo7N1mSSGbYmA_4pcxuYP-gtcqEe1dwPvTS UXU2UJBvhDCTQ5SljCE-s2OemU17ac5_6Dj9ITKaU9HS88A4H55n5_Qwob2RbGfPidCH4i uGAjz6eYoxLLRjixMv7k6Al8)

3. Max7219

[!\[\]\(99c9b6d0687a24bf856becdf01ed0a35_img.jpg\)](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEji4WMkqXerK8tAT-8Js y902gSNpEIQtJoLh2ayYYf2T2XwjQf9q40sjKDonyTiGPK9pR-7PGeqDoRVvQrdSg9xrShxMli olMmiIWRjrX7_Zc3ckJODQ3H8z3z76EAzZRvnEtOIRXbitAyn0vVAToELehYkKw8h8gF79PN Q0IaKB01tfbOtMGRWuWMLMX4U/s489/MAX7219-IC-PinOut.gif)

902gSNpEIQtJoLh2ayYYf2T2XwjQf9q40sjKDonyTiGPk9pR-7PGeqDoRVvQrdSg9xrShxMlio
IMmIWRjrX7_Zc3ckJODQ3H8z3z76EAzZRvnEtOIRXbitAyn0vVAToELehYkKw8h8gF79PNQ
0laKB01tfbOtMGRWuWMLMX4U/s320/MAX7219-IC-PinOut.gif" width="320"

/></div>
<div class="separator" style="background-color: white; clear: both;
font-family: times, "times new roman"; serif; font-size: 13.2px; text-align:

center;">
</div></div><div class="separator" style="background-color: white; clear:
both; font-family: times, "times new roman"; serif; font-size: 13.2px; text-align:

center;">
</div><div class="separator" style="background-color: white; clear: both;
font-family: times, "times new roman"; serif; font-size: 13.2px; text-align:

justify;"><div style="font-family: "Times New Roman"; font-size: medium;
text-align: left;">4. Power Supply</div><div style="font-family: "Times
New Roman"; font-size: medium; text-align: left;"><div class="separator" style="clear:

both; text-align: center;"><a
href="https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEgLYZtu6TkZ6rXGLocn
Kn604xThKX07UCBJf7MZL233apaW-BL5xOjCUIXsnMvxAmCcBMDZzCOVWL6W-N7yOX-
L8Q7URCuadXM-Oq4_Aw-35Wlh3sx5axDnoZpGZ1Bp_N-8PjwbuQidBHRlsUCswobLykqO4
Gx1bAtT0Yp9LERijjy5UlxJMYNb0-KCBuc/s320/35745405_5d11f7e5-486e-452f-b3fe-b07ae
a86ccfc_886_606.jpg" style="margin-left: 1em; margin-right: 1em;"></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;"><a

href="https://blogger.googleusercontent.com/img/a/AVvXsEhgVZ8RP5Gut2EfDQb9LplfObpg
MELNeNzcaxYlgkDaU96vE8ij27GnajjNpv9patNxmfu7wfu3mdyOHBuymKKOr6q9WooAQM
HQiqHhJHGyLn2KE0u3YmYgwuSQLHKjllB9K9lljy4q4xzLPKb7_GMNuvZ8bfd7xVJUy0BeG
u57jJcznQEaG2z_ZTHySw" style="margin-left: 1em; margin-right: 1em;"></div><div class="separator" style="clear:

both;">
</div></div></div></div></div></div></div><div><div class="separator"
style="background-color: white; clear: both; font-family: times, "times new
roman"; serif; font-size: 13.2px; text-align: justify;"><div style="font-family: "Times
New Roman"; font-size: medium; text-align: left;"><div class="separator" style="clear:

both; text-align: center;"><div class="separator" style="clear: both;">
</div></div></div></div></div></div><div><div><div class="separator" style="background-color:
white; clear: both; font-family: times, "times new roman"; serif; font-size: 13.2px;

text-align: center;">
</div><div class="separator" style="background-color: white; clear:
both; text-align: center;"><div style="text-align: start;">5. Dot Matrix</div><div

class="separator" style="clear: both; text-align: center;"><a
href="https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEgpotTd4a2rx5aWJi3U4
hwdYoH-MyRpcOLcw9Zetmbi9B8cPbmPoAxAuGIGGKL6MWWkzhT99rJVKcdeaOlgSe3lIxi
3-QttRLfICzn3wTXGVCWTdUuA6z1rAB7dKmw2GPKHI-3xfiN9g7TC76uNCzr3LI2d1hGiUI

Kk2Ru7IbBSIQKITBKjukIM7_fo_w/s828/dot.png" style="margin-left: 1em; margin-right: 1em;"></div>
<div style="text-align: start;">
</div><div style="font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; text-align: start;">
</div><div style="font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; text-align: start;">Diagram Blok :</div><div style="font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 13.2px; text-align: start;"><div class="separator" style="clear: both; text-align: center;"></div>

</div><div style="font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 13.2px; text-align: start;"><div class="separator" style="clear: both; text-align: center;">
</div></div><div>
</div><div><div>3. Rangkaian Simulasi dan Prinsip Kerja [Kembali]</div><div>
</div><div>Rangkaian Simulasi Sebelum dirunning:</div><div>
</div><div><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: center;"></div>
<div class="separator" style="clear: both; text-align: center;">
</div>
<div

justify;"><div style="text-align: left;">Rangkaian Simulasi Setelah dirunning:</div><div style="text-align: center;"><div class="separator" style="clear: both; text-align: center;">

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

</div></div><div>
</div><div>Prinsip Kerja : </div><div style="text-align: justify;"> Rangkaian di atas adalah penggunaan dip switch untuk mengontrol tampilan dot matrix melalui codingan pada arduino uno. Pertama-tama, pin DIP switch diatur sebagai input dengan resistor pull-up , yang mana input yang terbaca pada arduino akan berlogika 1 jika switch dari dipswitch tersebut berlogika 1 juga. Selanjutnya, program menentukan pola LED di dot matrix yang akan ditampilkan untuk masing-masing simbol, seperti angka 2, huruf k, dan angka 3, dengan mendefinisikan array byte untuk setiap pola.</div><div style="text-align: justify;">

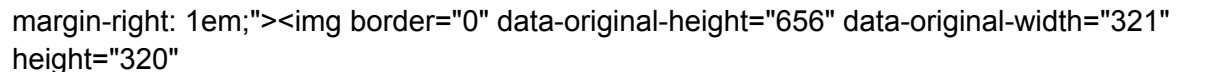
Status dari DIP switch terus dipantau. Jumlah saklar yang aktif dihitung untuk menentukan tindakan selanjutnya. Jika dua saklar pada dipswitch diaktifkan, program akan menampilkan kombinasi "2 k 3" dengan menampilkan simbol-simbol secara berurutan setelah jeda waktu tertentu. Setiap simbol direpresentasikan oleh pola LED yang sudah ditentukan sebelumnya. Setelah menampilkan kombinasi, program memberikan jeda untuk menampilkan LED Dot Matrix dengan stabil sebelum kembali ke loop utama. Jika tidak ada kombinasi yang terpenuhi (banyak jumlah saklar yang aktif bukan 2 saklar), tampilan pada LED Dot Matrix akan dimatikan.

4. Flowchart dan Listing Program

[Flowchart](#)

[Kembali](#)

Flowchart :



Listing Program :

```

// Library untuk LED Dot Matrix
#include <LedControl.h>
// Pin DIP switch terhubung ke Arduino
LedControl lc =

```

```

const int DIP_Pins[] = {13, 12, A0, A1, A2, A3, A4, A5};
// Pin DIP switch terhubung ke Arduino
LedControl lc =
  2, 3, 4, 1;

```

```
// Pin DIN, CLK, LOAD (CS), dan jumlah Dot Matrix yang dihubungkan ke
Arduino</span></div><div style="text-align: left;"><br /></div><div style="color: #4e5b61;
font-family: Consolas, &quot;Courier New&quot;;, monospace; font-size: 14px; text-align: left;
white-space: pre;">byte <span style="color: #d35400;">patterns</span>[<span style="color:
#005c5f;">8</span>] = <span style="color: #434f54;">{</span><span style="color:
#005c5f;">0</span>, <span style="color: #005c5f;">0</span>, <span style="color:
#005c5f;">0</span>, <span style="color: #005c5f;">0</span>, <span style="color:
#005c5f;">0</span>, <span style="color: #005c5f;">0</span>, <span style="color:
#005c5f;">0</span>, <span style="color: #005c5f;">0</span><span style="color:
#434f54;">}</span></div><div style="text-align: left;"><br /></div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace; font-size: 14px;
text-align: left; white-space: pre;">byte pattern_2[] = <span style="color:
#434f54;">{</span></div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp;
B00000000,</div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp;
B00011000,</div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp;
B00100100,</div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp;
B00000100,</div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp;
B00001000,</div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp;
B00100000,</div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp;
B00111100,</div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp;
B00000000</div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;"><span
style="color: #434f54;">}</span>;<span style="color: #95a5a6;"> // Pola LED untuk angka
"2"</span></div><div style="text-align: left;"><br /></div><div style="color: #4e5b61;
font-family: Consolas, &quot;Courier New&quot;;, monospace; font-size: 14px; text-align: left;
white-space: pre;">byte pattern_k[] = <span style="color: #434f54;">{</span></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; B00000000,</div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; B00100100,</div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; B00101000,</div><div
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font-size: 14px; text-align: left; white-space: pre;">&nbsp; B00110000,</div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; B00110000,</div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; B00101000,</div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; B00100100,</div><div
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style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; B00000000</div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace; font-size: 14px;
text-align: left; white-space: pre;"><span style="color: #434f54;"></span><span
style="color: #95a5a6;"> // Pola LED untuk huruf "k"</span></div><div style="text-align:
left;"><br /></div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;; monospace; font-size: 14px; text-align: left; white-space: pre;">byte pattern_3[]
= <span style="color: #434f54;">{</span></div><div style="color: #4e5b61; font-family:
Consolas, &quot;Courier New&quot;; monospace; font-size: 14px; text-align: left;
white-space: pre;">&nbsp; B00000000,</div><div style="color: #4e5b61; font-family:
Consolas, &quot;Courier New&quot;; monospace; font-size: 14px; text-align: left;
white-space: pre;">&nbsp; B00111100,</div><div style="color: #4e5b61; font-family:
Consolas, &quot;Courier New&quot;; monospace; font-size: 14px; text-align: left;
white-space: pre;">&nbsp; B00000010,</div><div style="color: #4e5b61; font-family:
Consolas, &quot;Courier New&quot;; monospace; font-size: 14px; text-align: left;
white-space: pre;">&nbsp; B00000100,</div><div style="color: #4e5b61; font-family:
Consolas, &quot;Courier New&quot;; monospace; font-size: 14px; text-align: left;
white-space: pre;">&nbsp; B00011000,</div><div style="color: #4e5b61; font-family:
Consolas, &quot;Courier New&quot;; monospace; font-size: 14px; text-align: left;
white-space: pre;">&nbsp; B00000100,</div><div style="color: #4e5b61; font-family:
Consolas, &quot;Courier New&quot;; monospace; font-size: 14px; text-align: left;
white-space: pre;">&nbsp; B00000010,</div><div style="color: #4e5b61; font-family:
Consolas, &quot;Courier New&quot;; monospace; font-size: 14px; text-align: left;
white-space: pre;">&nbsp; B00111100</div><div style="color: #4e5b61; font-family:
Consolas, &quot;Courier New&quot;; monospace; font-size: 14px; text-align: left;
white-space: pre;"><span style="color: #434f54;"></span><span style="color: #95a5a6;"> //
Pola LED untuk angka "3"</span></div><div style="text-align: left;"><br /></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;"><span style="color:
#00979d;">void</span> <span style="color: #d35400;">setup</span><span style="color:
#434f54;">(</span><span style="color: #434f54;">{</span></div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace; font-size: 14px;
text-align: left; white-space: pre;">&nbsp; <span style="color: #728e00;">for</span> <span
style="color: #434f54;">(</span><span style="color: #00979d;">int</span> i = <span
style="color: #005c5f;">0</span>; i &lt; <span style="color: #005c5f;">8</span>; i++<span
style="color: #434f54;">)</span> <span style="color: #434f54;">{</span></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; &nbsp; <span style="color:
#d35400;">pinMode</span><span style="color: #434f54;">(</span><span style="color:
#d35400;">DIP_Pins</span>[i], INPUT_PULLUP<span style="color:
#434f54;">)</span><span style="color: #95a5a6;"> // Mengatur pin DIP switch sebagai
input dengan pull-up resistor</span></div><div style="color: #4e5b61; font-family: Consolas,
&quot;Courier New&quot;; monospace; font-size: 14px; text-align: left; white-space:
pre;">&nbsp; <span style="color: #434f54;">}</span></div><div style="color: #4e5b61;
font-family: Consolas, &quot;Courier New&quot;; monospace; font-size: 14px; text-align: left;
white-space: pre;">&nbsp; <span style="color: #d35400;">lc</span>.<span style="color:
#d35400;">shutdown</span><span style="color: #434f54;">(</span><span style="color:
#005c5f;">0</span>, <span style="color: #005c5f;">false</span><span style="color:

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#434f54;">)/span>;<span style="color: #95a5a6;"> // Mengaktifkan
display</span></div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;; monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp; <span
style="color: #d35400;">lc</span>.<span style="color: #d35400;">setIntensity</span><span
style="color: #434f54;">(</span><span style="color: #005c5f;">0</span>, <span
style="color: #005c5f;">8</span><span style="color: #434f54;">)</span>;<span style="color:
#95a5a6;"> // Mengatur kecerahan LED (nilai antara 0 dan 15)</span></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; <span style="color:
#d35400;">lc</span>.<span style="color: #d35400;">clearDisplay</span><span
style="color: #434f54;">(</span><span style="color: #005c5f;">0</span><span style="color:
#434f54;">)</span>;<span style="color: #95a5a6;"> // Membersihkan tampilan dot
matrix</span></div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;; monospace; font-size: 14px; text-align: left; white-space: pre;"><span
style="color: #434f54;">}</span></div><div style="text-align: left;"><br /></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;"><span style="color:
#00979d;">void</span> <span style="color: #d35400;">loop</span><span style="color:
#434f54;">(</span> <span style="color: #434f54;">{</span></div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace; font-size: 14px;
text-align: left; white-space: pre;"><span style="color: #95a5a6;">&nbsp; // Membaca status
DIP switch</span></div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;; monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp; <span
style="color: #00979d;">bool</span> switch_1 = <span style="color:
#d35400;">digitalRead</span><span style="color: #434f54;">(</span><span style="color:
#d35400;">DIP_Pins</span><span style="color: #005c5f;">0</span>]<span style="color:
#434f54;">)</span> == LOW;</div><div style="color: #4e5b61; font-family: Consolas,
&quot;Courier New&quot;; monospace; font-size: 14px; text-align: left; white-space:
pre;">&nbsp; <span style="color: #00979d;">bool</span> switch_2 = <span style="color:
#d35400;">digitalRead</span><span style="color: #434f54;">(</span><span style="color:
#d35400;">DIP_Pins</span><span style="color: #005c5f;">1</span>]<span style="color:
#434f54;">)</span> == LOW;</div><div style="color: #4e5b61; font-family: Consolas,
&quot;Courier New&quot;; monospace; font-size: 14px; text-align: left; white-space:
pre;">&nbsp; &nbsp; </div><div style="text-align: left;"><br /></div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace; font-size: 14px;
text-align: left; white-space: pre;">&nbsp; <span style="color: #00979d;">int</span>
activeSwitches = <span style="color: #005c5f;">0</span>;<span style="color: #95a5a6;"> //
Jumlah saklar yang aktif</span></div><div style="color: #4e5b61; font-family: Consolas,
&quot;Courier New&quot;; monospace; font-size: 14px; text-align: left; white-space:
pre;">&nbsp; &nbsp; <span style="color: #728e00;">for</span> <span style="color:
#434f54;">(</span><span style="color: #00979d;">int</span> i = <span style="color:
#005c5f;">0</span>; i &lt; <span style="color: #005c5f;">8</span>; i++<span style="color:
#434f54;">)</span> <span style="color: #434f54;">{</span></div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace; font-size: 14px;
text-align: left; white-space: pre;">&nbsp; &nbsp; &nbsp; &nbsp; <span style="color:
#728e00;">if</span> <span style="color: #434f54;">(</span><span style="color:
#d35400;">digitalRead</span><span style="color: #434f54;">(</span><span style="color:
#d35400;">DIP_Pins</span>[i]<span style="color: #434f54;">)</span> == LOW<span

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style="color: #434f54;"]</span> <span style="color: #434f54;"]</span></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace;
font-size: 14px; text-align: left; white-space: pre;"]>&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp;
&nbsp; &nbsp; activeSwitches++;<span style="color: #95a5a6;"]> // Menghitung jumlah saklar yang
aktif</span></div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;"]>&nbsp; &nbsp; &nbsp;
&nbsp; &nbsp; &nbsp; <span style="color: #434f54;"]></span></div><div style="color: #4e5b61;
font-family: Consolas, &quot;Courier New&quot;;, monospace; font-size: 14px; text-align: left;
white-space: pre;"]>&nbsp; &nbsp; &nbsp; <span style="color: #434f54;"]></span></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace;
font-size: 14px; text-align: left; white-space: pre;"]><span style="color: #95a5a6;"]>&nbsp; &nbsp; //
Menampilkan kombinasi "2 k 3" jika dua switch diaktifkan</span></div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace; font-size: 14px;
text-align: left; white-space: pre;"]>&nbsp; &nbsp; <span style="color: #728e00;"]>if</span> <span
style="color: #434f54;"]></span>activeSwitches == <span style="color:
#005c5f;"]>2</span><span style="color: #434f54;"]></span> <span style="color:
#434f54;"]></span></div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;"]><span
style="color: #95a5a6;"]>&nbsp; &nbsp; &nbsp; // Menampilkan angka "2"</span></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace;
font-size: 14px; text-align: left; white-space: pre;"]>&nbsp; &nbsp; &nbsp; <span style="color:
#728e00;"]>for</span> <span style="color: #434f54;"]></span><span style="color:
#00979d;"]>int</span> row = <span style="color: #005c5f;"]>0</span>; row &lt; <span
style="color: #005c5f;"]>8</span>; row++<span style="color: #434f54;"]></span> <span
style="color: #434f54;"]></span></div><div style="color: #4e5b61; font-family: Consolas,
&quot;Courier New&quot;;, monospace; font-size: 14px; text-align: left; white-space:
pre;"]>&nbsp; &nbsp; &nbsp; &nbsp; <span style="color: #d35400;"]>lc</span>.<span style="color:
#d35400;"]>setRow</span><span style="color: #434f54;"]></span><span style="color:
#005c5f;"]>0</span>, row, <span style="color: #d35400;"]>pattern_2</span>[row]<span
style="color: #434f54;"]></span></div><div style="color: #4e5b61; font-family: Consolas,
&quot;Courier New&quot;;, monospace; font-size: 14px; text-align: left; white-space:
pre;"]>&nbsp; &nbsp; &nbsp; &nbsp; <span style="color: #434f54;"]></span></div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace; font-size: 14px;
text-align: left; white-space: pre;"]>&nbsp; &nbsp; &nbsp; <span style="color:
#d35400;"]>delay</span><span style="color: #434f54;"]></span><span style="color:
#005c5f;"]>1000</span><span style="color: #434f54;"]></span><span style="color:
#95a5a6;"]> // Delay sebelum menampilkan huruf "k"</span></div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;;, monospace; font-size: 14px;
text-align: left; white-space: pre;"]>&nbsp; &nbsp; &nbsp; </div><div style="color: #4e5b61;
font-family: Consolas, &quot;Courier New&quot;;, monospace; font-size: 14px; text-align: left;
white-space: pre;"]><span style="color: #95a5a6;"]>&nbsp; &nbsp; &nbsp; // Menampilkan huruf
"k"</span></div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;;, monospace; font-size: 14px; text-align: left; white-space: pre;"]>&nbsp; &nbsp; &nbsp;
<span style="color: #728e00;"]>for</span> <span style="color: #434f54;"]></span><span
style="color: #00979d;"]>int</span> row = <span style="color: #005c5f;"]>0</span>; row &lt;
<span style="color: #005c5f;"]>8</span>; row++<span style="color: #434f54;"]></span>
<span style="color: #434f54;"]></span></div><div style="color: #4e5b61; font-family:
Consolas, &quot;Courier New&quot;;, monospace; font-size: 14px; text-align: left;

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white-space: pre;">&nbsp; &nbsp; &nbsp; <span style="color: #d35400;">lc</span>.<span
style="color: #d35400;">setRow</span><span style="color: #434f54;">(</span><span
style="color: #005c5f;">0</span>, row, <span style="color:
#d35400;">pattern_k</span>[row]<span style="color: #434f54;">)</span>;</div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; &nbsp; <span style="color:
#434f54;">}</span></div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;; monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp; &nbsp;
<span style="color: #d35400;">delay</span><span style="color: #434f54;">(</span><span
style="color: #005c5f;">1000</span><span style="color: #434f54;">)</span>;<span
style="color: #95a5a6;"> // Delay sebelum menampilkan angka "3"</span></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; &nbsp; </div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace; font-size: 14px;
text-align: left; white-space: pre;"><span style="color: #95a5a6;">&nbsp; &nbsp; //
Menampilkan angka "3"</span></div><div style="color: #4e5b61; font-family: Consolas,
&quot;Courier New&quot;; monospace; font-size: 14px; text-align: left; white-space:
pre;">&nbsp; &nbsp; <span style="color: #728e00;">for</span> <span style="color:
#434f54;">(</span><span style="color: #00979d;">int</span> row = <span style="color:
#005c5f;">0</span>; row &lt; <span style="color: #005c5f;">8</span>; row++<span
style="color: #434f54;">)</span> <span style="color: #434f54;">{</span></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; &nbsp; &nbsp; <span style="color:
#d35400;">lc</span>.<span style="color: #d35400;">setRow</span><span style="color:
#434f54;">(</span><span style="color: #005c5f;">0</span>, row, <span style="color:
#d35400;">pattern_3</span>[row]<span style="color: #434f54;">)</span>;</div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; &nbsp; <span style="color:
#434f54;">}</span></div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;; monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp; &nbsp;
<span style="color: #d35400;">delay</span><span style="color: #434f54;">(</span><span
style="color: #005c5f;">1000</span><span style="color: #434f54;">)</span>;<span
style="color: #95a5a6;"> // Delay untuk tampilan LED stabil</span></div><div style="color:
#4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace; font-size: 14px;
text-align: left; white-space: pre;">&nbsp; <span style="color: #434f54;">}</span> <span
style="color: #728e00;">else</span> <span style="color: #434f54;">{</span></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;"><span style="color: #95a5a6;">&nbsp;
&nbsp; // Matikan tampilan dot matrix jika kedua saklar tidak aktif</span></div><div
style="color: #4e5b61; font-family: Consolas, &quot;Courier New&quot;; monospace;
font-size: 14px; text-align: left; white-space: pre;">&nbsp; &nbsp; <span style="color:
#d35400;">lc</span>.<span style="color: #d35400;">clearDisplay</span><span
style="color: #434f54;">(</span><span style="color: #005c5f;">0</span><span style="color:
#434f54;">)</span>;</div><div style="color: #4e5b61; font-family: Consolas, &quot;Courier
New&quot;; monospace; font-size: 14px; text-align: left; white-space: pre;">&nbsp; <span
style="color: #434f54;">}</span></div><div style="color: #4e5b61; font-family: Consolas,
&quot;Courier New&quot;; monospace; font-size: 14px; text-align: left; white-space:
pre;"><span style="color: #434f54;">}</span></div><div style="text-align: left;"><br

```

5. Kondisi

Percobaan 3 Kondisi 2

Ketika 2 switch diaktifkan maka akan menampilkan kombinasi 2, k, 3.

6. Video Simulasi

7. Download File

HTML

Download

File Rangkaian

Video Percobaan

Listing Program

Datasheet Arduino

Datasheet Dip Switch

Datasheet MAX7219

"times"; , "times new roman"; , serif;">Datasheet Dot
Matrix <a
href="https://drive.google.com/file/d/1KC17MwleQhDb_FqdddkJvuU4_f-DVJ1Y/view?usp=sh
aring">Download</div><div><span style="font-family:
"times"; , "times new roman"; , serif;"><br
</div><div><span style="font-family: "times"; ,
"times new roman"; , serif;"><br
</div><div><span style="font-family: "times"; ,
"times new roman"; , serif;"><br
</div><div><span style="font-family: "times"; ,
"times new roman"; , serif;"><br
</div><div><span style="font-family: "times"; ,
"times new roman"; , serif;"><br
</div><div><span style="font-family: "times"; ,
"times new roman"; , serif;"><br
</div><div><span style="font-family: "times"; ,
"times new roman"; , serif;"><br
</div><div><span style="font-family: "times"; ,
"times new roman"; , serif;"><br
</div><div><span style="font-family: "times"; ,
"times new roman"; , serif;">
</div>