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<a name="home">

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<a href="http://muhammaddimas211006.blogspot.com">[KEMBALI KE MENU
SEBELUMNYA]</a></div>

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<center>

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auto; padding: 10px; text-align: center; width: 330px;">

<b>DAFTAR ISI</b>

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<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>

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<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>

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<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 />

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<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
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roman&quot; , serif;"><span style="font-family: &quot;times&quot; , &quot;times new roman&quot;

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, serif; font-size: small;">
</div><div style="text-align: center;">Tugas Pendahuluan 1 Modul 3</div><div style="text-align: center;">(Percobaan 1 Kondisi 5)</div><div style="font-size: medium; text-align: center;">
</div>1. Prosedur

[Kembali]</div>
</div><div style="background-color: white; border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;">1. Rangkai rangkaian di proteus sesuai dengan kondisi percobaan.
2. Tulis program untuk arduino di software Arduino IDE.
3. Compile program tadi, lalu upload ke dalam arduino.
4. Setelah program selesai di 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>1. 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;">
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style="color: #280f53; margin-left: 1em; margin-right: 1em; text-decoration-line: none;"></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;">
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</div><div class="separator" style="background-color: white; clear: both; font-family: times, "times new roman"; serif; font-size: 13.2px; text-align: justify;">Spesifikasi:</div></div><div class="separator" style="clear: both; text-align: center;"></div>
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</div><div class="separator" style="background-color: white; clear: both; text-align: justify;"><div style="font-family: "Times New Roman"; font-size: medium; text-align: left;">2. Power Supply</div><div style="text-align: left;"><div class="separator" style="clear: both; font-family: "Times New Roman"; font-size: medium; text-align: center;"></div><div class="separator" style="clear: both; font-family: "Times New Roman"; font-size: medium; text-align: center;">
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</div><div class="separator" style="clear: both; font-family: "Times New Roman"; font-size: medium; text-align: justify;">3. LED</div><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 13.2px;">
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center;">
</div><div class="separator" style="clear: both; text-align: justify;">5.
Resistor</div><div class="separator" style="clear: both; text-align: center;"><a
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94/Screenshot%202024-04-21%20220209.png" style="margin-left: 1em; margin-right: 1em;"><img

[\[Kembali\]](#)

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Rangkaian Simulasi Sebelum dirunning:
"times", serif;">

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</div><div style="text-align: justify;"><div

style="text-align: left;">Rangkaian Simulasi Setelah dirunning:</div><div

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"times new roman" , serif;">
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</div><div><span style="font-family: "times" , "times new roman" ,

serif;">
</div><div>Prinsip Kerja : </div><div style="text-align: justify;">
</div><div style="text-align: justify;">Pada percobaan ini kita menggunakan inputan

berupa dip switch pull up dan dip switch pull down. Sedangkan untuk outputnya menggunakan LED. Kita menggunakan 2 buah arduino, arduino pertama berfungsi sebagai master, sedangkan arduino kedua berfungsi sebagai slave.

MASTER:

Arduino master memiliki tanggung jawab untuk mengawasi masukan dari dipswitch dan mengirimkan pesan ke Arduino slave sesuai dengan kondisi yang terdeteksi. Delapan tombol switch terhubung ke pin input Arduino master, dengan empat tombol dalam kondisi pull-down dan empat lainnya dalam kondisi pull-up. Hal ini memungkinkan setiap tombol switch untuk menentukan apakah pin inputnya berlogika 1 atau 0. Arduino master secara terus-menerus memeriksa kondisi tombol menggunakan fungsi `digitalRead()` pada setiap pin input. Jika kondisi tombol memenuhi syarat untuk mengaktifkan running LED (dua tombol pull-down dan satu tombol pull-up), Arduino master akan mengirimkan pesan 'r' melalui komunikasi serial. Sedangkan jika kondisi tombol memenuhi syarat untuk mengaktifkan blinking LED (tiga tombol pull-down dan empat tombol pull-up), Arduino master akan mengirimkan pesan 'b' melalui komunikasi serial.

SLAVE:

Pada sisi Arduino slave, fungsinya adalah menerima pesan yang dikirim oleh Arduino master dan mengatur LED sesuai dengan pesan yang diterima. Terdapat delapan LED yang terhubung ke pin output Arduino slave yang akan dikendalikan berdasarkan pesan yang diterima. Arduino slave akan terus memonitor komunikasi serial untuk menerima pesan baru dari Arduino master. Ketika pesan 'r' diterima, Arduino slave akan mengaktifkan running LED dengan mengatur LED untuk menyala dan mematikan secara berurutan. Sebaliknya, ketika pesan 'b' diterima, Arduino slave akan mengaktifkan blinking LED dengan membuat LED berkedip secara bergantian antara nyala dan mati. Melalui mekanisme ini, Arduino master dan slave dapat berinteraksi dan mengontrol LED sesuai dengan input dari tombol yang ditekan pada Arduino master, memberikan respons melalui LED.

4. Flowchart dan Listing Program

[Kembali]</div><div>
</div><div>Flowchart :</div><div>
</div><div>Flowchart di modul:</div><div><div class="separator" style="clear: both; text-align: center;">MASTER</div><div class="separator" style="clear: both; text-align: center;">
</div><div class="separator" style="clear: both; text-align: center;"><img border="0" data-original-height="325" data-original-width="555" height="187" src="https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEjVaglZgnxiqdVuqKAFmLF7mYIVmuOhSmH_hfedhaqjMgyGvmRePGJ6mIn0DsHMH7WmvmGIGXYGADiJ5IjeDIEpcl8GA-o6oxFJKr4-LTrpF3yNSwKXN_cAJU6MzSfF60585jGIBYRRTPNDJ7oaFqigFABtZM7th5DT3tBJUDnnEYSJfxgRLMtoblGwg8

[illegible]

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message; </div><div class="separator" style="clear: both;"><br /></div><div class="separator"
style="clear: both;">void setup() {</div><div class="separator" style="clear: both;">&nbsp;
Serial.begin(9600);</div><div class="separator" style="clear: both;">&nbsp; for (int i = 0; i &lt; 8; i++)
{</div><div class="separator" style="clear: both;">&nbsp; &nbsp; pinMode(led[i],
OUTPUT);</div><div class="separator" style="clear: both;">&nbsp; }</div><div class="separator"
style="clear: both;"></div><div class="separator" style="clear: both;"><br /></div><div
class="separator" style="clear: both;">void loop() {</div><div class="separator" style="clear:
both;">&nbsp; if (Serial.available()) {</div><div class="separator" style="clear: both;">&nbsp; &nbsp;
message = Serial.read();</div><div class="separator" style="clear: both;"><br /></div><div
class="separator" style="clear: both;">&nbsp; &nbsp; if (message == 'r') {</div><div
class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; // Mengaktifkan running
LED</div><div class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; for (int i = 0; i &lt; 8; i++)
{</div><div class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; &nbsp; digitalWrite(led[i],
HIGH);</div><div class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; &nbsp;
delay(100);</div><div class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; &nbsp;
digitalWrite(led[i], LOW);</div><div class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp;
}</div><div class="separator" style="clear: both;">&nbsp; &nbsp; } else if (message == 'b')
{</div><div class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; // Mengaktifkan blinking
LED</div><div class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; for (int i = 0; i &lt; 8; i++)
{</div><div class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; &nbsp; digitalWrite(led[i],
HIGH);</div><div class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; &nbsp;
}</div><div
class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; delay(500);</div><div
class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; for (int i = 0; i &lt; 8; i++) {</div><div
class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; &nbsp; digitalWrite(led[i],
LOW);</div><div class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; &nbsp;
}</div><div
class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; delay(500);</div><div
class="separator" style="clear: both;">&nbsp; &nbsp; &nbsp; }</div><div class="separator" style="clear:
both;">&nbsp; }</div><div class="separator" style="clear: both;"></div><div class="separator"
style="clear: both;"><br /></div></span></div><div><b style="font-family: times, &quot;times
new roman&quot;, serif;">5. Kondisi </b><span style="font-family: times, &quot;times new
roman&quot;, serif;">

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[Kembali]</div><div>
</div><div><div><i>Percobaan 1 Kondisi 5</i></div><div><div>4 switch dalam pull-down &

4 switch dalam pull-up, 2

switch pull-down dan 1

switch pull up mengaktifkan

running led, 3 switch pull

down dan 4 switch pull up

mengaktifkan blinking led</div></div></div><div>
</div><div><span style="font-family:

[illegible]