

<br style="box-sizing: border-box;" />

[\[KEMBALI KE MENU SEBELUMNYA\]](https://muhammad212039.blogspot.com/2024/03/modul-1-up-uc.html)

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Laporan Percobaan

Keypad dan 7-segment

Foto Hardware dan Diagram Blok

Kembali

1. Arduino Uno



gFrY7buoABolqj2xr_6g5zldZk/s1600/Screenshot%202024-03-01%20080927.png" width="312" /><br style="text-align: left;" /><div class="separator" style="clear: both;">
</div><div class="separator" style="clear: both;">
</div><div class="separator" style="clear: both; text-align: left;"> 2. Keypad
</div><div class="separator" style="clear: both; text-align: center;"></div>
<div class="separator" style="clear: both;">
</div><br style="text-align: left;" /><div class="separator" style="clear: both;">
</div><div class="separator" style="clear: both;">
</div><div class="separator" style="clear: both; text-align: left;"> 3. 7-Segment
</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: left;"> 4. Kabel Jumper</div><div class="separator" style="clear: both; text-align: left;">
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[illegible]

text-align: left;"><h3 style="background-color: white; border: 0px; box-sizing: border-box; color: #757575; font-size: 19px; letter-spacing: 0px; line-height: 29px; margin: 0px 0px 7px; padding-bottom: 0px; padding-left: 0px; padding-right: 0px; padding-top: 4px !important; padding: 4px 0px 0px; position: relative; text-align: justify; text-indent: -1px;"><b style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px; text-align: left;">2. Prosedur Percobaan [Kembali]</h3><div style="background-color: white; border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px; padding: 0px;"><b style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;">+ Rangkaian semua komponen </div><div style="background-color: white; border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px; padding: 0px;">+ buat program di aplikasi arduino IDE</div><div style="background-color: white; border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px; padding: 0px;">+ setelah selesai masukkan program ke arduino </div><div style="background-color: white; border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px; padding: 0px;">+ jalankan program pada simulasi dan cobakan dengan modul</div><div style="background-color: white; border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px; padding: 0px;"><b style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><br style="border: 0px; box-sizing: border-box;" /></div><div style="background-color: white; border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px; padding: 0px;"><b style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;">3. Rangkaian Simulasi dan Prinsip Kerja [Kembali]</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><br style="border: 0px; box-sizing: border-box;" /><div class="separator" style="background-color: white; clear: both; text-align: center;"></div>
<div style="background-color: white; border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; font-weight: bold; margin: 0px; padding: 0px; text-align: justify;">Prinsip Kerja</div><div style="background-color: white; border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; font-weight: bold; margin: 0px; padding: 0px; text-align: justify;">
</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px; text-align: justify;"><div class="separator" style="border: 0px; box-sizing: border-box; clear: both; margin: 0px; padding: 0px; text-align: left;"><div class="separator" style="background-color: white; border: 0px; box-sizing: border-box; clear: both; margin: 0px; padding: 0px; text-align: justify;">
</div><div class="separator" style="border: 0px; box-sizing: border-box; clear: both; margin: 0px; padding: 0px; text-align: justify;">Dalam percobaan ini, menggunakan push button untuk mendapatkan output C pada kolom 2 dan baris 2. Pengaturan ini dilakukan melalui program yang dikembangkan menggunakan Arduino Uno IDE, yang memungkinkan kita untuk mengatur kondisi sesuai kebutuhan atau perintah yang diberikan.</div></div><div class="separator" style="background-color: white; border: 0px; box-sizing: border-box; clear: both; margin: 0px; padding: 0px; text-align: justify;">
</div></div></div><div style="background-color: white; border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><h3 style="border: 0px; box-sizing: border-box; color: #757575; font-size: 19px; letter-spacing: 0px; line-height: 29px; margin: 0px 0px 7px; padding-bottom: 0px; padding-left: 0px; padding-right: 0px; padding-top: 4px !important; padding: 4px 0px 0px; position: relative; text-align: justify; text-indent: -1px;"><b style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px; text-align: left;">4. Flowchart dan Listing Program [Kembali]</h3><div class="separator" style="clear: both; text-align: center;"></div>
<div class="separator" style="clear:
both; color: #444444; font-size: 15px; text-align: center;">
</div><div style="border:
0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px; padding: 0px;"><br
style="box-sizing: border-box;" /><br style="box-sizing: border-box;" /></div><div
style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><span style="border:
0px; box-sizing: border-box; margin: 0px; padding: 0px;"><div style="border: 0px; box-sizing:
border-box; color: #444444; font-size: 15px; margin: 0px; padding: 0px;">Listing
Program:</div><div style="border: 0px; box-sizing: border-box; color: #444444; font-size:
15px; margin: 0px; padding: 0px;"><br style="box-sizing: border-box;" /></div><div
style="border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px;
padding: 0px;"><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;">//Percobaan 2</div><div style="border: 0px; box-sizing: border-box; margin: 0px;
padding: 0px;">#include <Keypad.h></div><div style="border: 0px; box-sizing:
border-box; margin: 0px; padding: 0px;">const byte ROWS = 4; // Four rows</div><div
style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;">const byte COLS =
4; // Fou columns</div><div style="border: 0px; box-sizing: border-box; margin: 0px;
padding: 0px;">char keys[ROWS][COLS] = {</div><div style="border: 0px; box-sizing:
border-box; margin: 0px; padding: 0px;"> {'D','3','2','1'},</div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> {'6','C','5','4'}, // Keypad 4x4
layout</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"> {'9','8','B','7'},</div><div style="border: 0px; box-sizing: border-box; margin: 0px;
padding: 0px;"> {'*','0','#','A'}</div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;">></div><div style="border: 0px; box-sizing: border-box; margin:
0px; padding: 0px;">byte rowPins[ROWS] = {A4, A3, A2, A1}; // Connect to the keypad row
pins</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;">byte
colPins[COLS] = {10, 11, 12, 13}; // Connect to the keypad column pins</div><div
style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;">Keypad keypad =
Keypad(makeKeymap(keys), rowPins, colPins, ROWS, COLS);</div><div style="border:
0px; box-sizing: border-box; margin: 0px; padding: 0px;">const int segmentPins[] = {9, 8, 7,
6, 5, 4, 3, 2}; // Connect to the seven-segment display segment pins</div><div style="border:
0px; box-sizing: border-box; margin: 0px; padding: 0px;">void setup() {</div><div
style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"> for (int i = 0; i
< 8; i++) {</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"> pinMode(segmentPins[i], OUTPUT);</div><div style="border: 0px; box-sizing:
border-box; margin: 0px; padding: 0px;"> }</div><div style="border: 0px; box-sizing:
border-box; margin: 0px; padding: 0px;">></div><div style="border: 0px; box-sizing:
border-box; margin: 0px; padding: 0px;">void loop() {</div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> char key =
keypad.getKey();</div><div style="border: 0px; box-sizing: border-box; margin: 0px;
padding: 0px;"> if (key) {</div><div style="border: 0px; box-sizing: border-box; margin:
0px; padding: 0px;"> displayCharacter(key);</div><div style="border: 0px; box-sizing:
border-box; margin: 0px; padding: 0px;"> delay(1000);</div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> clearDisplay();</div><div
style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"> }</div><div

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style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"></div><div
style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;">void
displayCharacter(char ch) {</div><div style="border: 0px; box-sizing: border-box; margin:
0px; padding: 0px;"> // Define segment patterns for each digit (0-9)</div><div
style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"> // Example:
Displaying '1'</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"> // A</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"> // F B</div><div style="border: 0px; box-sizing: border-box; margin: 0px;
padding: 0px;"> // G</div><div style="border: 0px; box-sizing: border-box; margin:
0px; padding: 0px;"> // E C</div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;"> // D</div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;"> byte patterns[][9] = {</div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> {0, 0, 0, 0, 0, 0, 1, 1}, //
0</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"> {1, 0, 0, 1, 1, 1, 1, 1}, // 1</div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;"> {0, 0, 1, 0, 0, 1, 0, 1}, // 2</div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> {0, 0, 0, 0, 1, 1, 0, 1}, //
3</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"> {1, 0, 0, 1, 1, 0, 0, 1}, // 4</div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;"> {0, 1, 0, 0, 1, 0, 0, 1}, // 5</div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> {0, 1, 0, 0, 0, 0, 0, 1}, //
6</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"> {0, 0, 0, 1, 1, 1, 1, 1}, // 7</div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;"> {0, 0, 0, 0, 0, 0, 0, 1}, // 8</div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> {0, 0, 0, 0, 1, 0, 0, 1}, //
9</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"> {0, 0, 0, 0, 0, 1, 0, 1}, //a</div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;"> {1, 1, 0, 0, 0, 0, 0, 1}, //b</div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> {0, 1, 1, 0, 0, 0, 1, 1},
//c</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"> {1, 0, 0, 0, 0, 1, 0, 1}, //d</div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;"> </div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;"> </div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;"> if ((ch >= '0' & ch <= '9') || (ch >= 'A'
& ch <= 'D')) {</div><div style="border: 0px; box-sizing: border-box; margin:
0px; padding: 0px;"> // Get the digit index (0-9) from the character</div><div
style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"> int index =
(ch <= '9')? (ch - '0') : (ch - 'A' + 10);</div><div style="border: 0px; box-sizing: border-box;
margin: 0px; padding: 0px;"> // Write the pattern to the segment pins</div><div
style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"> for (int i = 0; i
< 7; i++) {</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:
0px;"> digitalWrite(segmentPins[i], patterns[index][i]);</div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> </div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> </div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;"> </div><div style="border: 0px;
box-sizing: border-box; margin: 0px; padding: 0px;">void clearDisplay() {</div><div
style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"> for (int i = 0; i
< 8; i++) {</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding:

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Opx;">&nbsp;digitalWrite(segmentPins[i], HIGH);</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;">&nbsp;</div><div style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"></div></span></div><p style="border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px 0px 15px; padding: 0px; text-align: justify;"><b style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px; text-align: left;"><span style="border: 0px; box-sizing: border-box; font-size: medium; margin: 0px; padding: 0px;"><span style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><a name="K" style="border: 0px; box-sizing: border-box; color: #597e00; margin: 0px; padding: 0px; transition: all 0.3s ease 0s;">5. Kondisi</a></span>&nbsp;<a href="#home" style="border: 0px; box-sizing: border-box; color: #597e00; margin: 0px; padding: 0px; text-decoration-line: none; transition: all 0.3s ease 0s;">[Kembali]</a></span></b></p><p style="border: 0px; box-sizing: border-box; margin: 0px 0px 15px; padding: 0px; text-align: justify;"><span style="border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px; padding: 0px; text-align: left;">&nbsp;&nbsp;&nbsp;</span><span style="font-size: 15px; text-align: left;"><span style="color: #444444;">Percobaan 2 Kondisi 2 : "Button baris 2 kolom 2 menampilkan huruf C"</span></span></p><div style="border: 0px; box-sizing: border-box; color: #444444; font-size: 15px; margin: 0px; padding: 0px; text-align: -webkit-center;"><span style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px; text-align: left;"><span style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><span style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><p style="border: 0px; box-sizing: border-box; margin: 0px 0px 15px; padding: 0px; text-align: justify;"><b style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px; text-align: left;"><span style="border: 0px; box-sizing: border-box; font-size: medium; margin: 0px; padding: 0px;"><span style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><a name="V" style="border: 0px; box-sizing: border-box; color: #597e00; margin: 0px; padding: 0px; transition: all 0.3s ease 0s;">6. Video Demo</a></span>&nbsp;<a href="#home" style="border: 0px; box-sizing: border-box; color: #597e00; margin: 0px; padding: 0px; text-decoration-line: none; transition: all 0.3s ease 0s;">[Kembali]</a></span></b></p><div class="separator" style="clear: both; text-align: center;"><object class="BLOG\_video\_class" contentid="f5f3a47f19945ab0" height="266" id="BLOG\_video-f5f3a47f19945ab0" width="320"></object></div><br /><div class="separator" style="clear: both; text-align: center;"><br /></div><div class="separator" style="border: 0px; box-sizing: border-box; clear: both; margin: 0px; padding: 0px; text-align: center;"><br style="box-sizing: border-box;" /></div><p style="border: 0px; box-sizing: border-box; margin: 0px 0px 15px; padding: 0px;"></p><div style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><b style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><div style="border: 0px; box-sizing: border-box; font-weight: 400; margin: 0px; padding: 0px; text-align: -webkit-center;"><span style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px; text-align: left;"><span style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><span style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><p style="border: 0px; box-sizing: border-box; margin: 0px 0px 1px; padding: 0px; text-align: justify;"><b style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px; text-align: left;"><span style="border: 0px; box-sizing: border-box; font-size: medium; margin: 0px; padding: 0px;"><span style="border: 0px; box-sizing: border-box; margin: 0px; padding: 0px;"><a name="L" style="border: 0px; box-sizing: border-box; color: #597e00; margin: 0px; padding: 0px; transition: all 0.3s ease 0s;">7. Link Download&nbsp;</a></span><a href="#home" style="border: 0px; box-sizing: border-box; color: #597e00; margin: 0px; padding: 0px; text-decoration-line: none; transition:

[illegible]