LAMPIRAN

1. Perhitungan rata rata

   Rata – Rata $(\overline{X}) = \dfrac{\sum Xi}{n}$

   $$= \frac{20x\ 100\%}{20}$$

   $$= 100\%$$

2. Perhitungan nilai validitas:

   Tabel 4.4 Data Pengujian Validitas

Responden	x	$\sum X$	y	$\sum Y$
1	4		30	
2	5		34	
3	4	18	29	145
4	2		22	
5	3		30	
Jumlah	$\sum X^2$	70	$\sum Y^2$	4281
	$\sum XY$	540	n	5

   Perhitungan :

   $$r = \frac{n\sum xy - \sum x.\sum y}{\sqrt{(n\sum x^2 - (\sum x)^2)(n\sum y^2 - (\sum y)^2)}}$$

   $$r = \frac{5.540 - 18.145}{\sqrt{(5(70) - (18)^2)(5(4281) - (145)^2)}}$$

   $$r = \mathbf{0,90}$$

3. Perhitungan nilai reliabilitas :

Tabel 4.5 Data Pengujian Reliabilitas

Responden	Pertanyaan Kuisioner (x)							Total (y)	Total^2 (y^2)
	1	2	3	4	5	6	7		
1	4	5	4	4	4	5	4	30	900
2	5	4	5	5	5	5	5	34	1156
3	4	4	5	4	4	4	4	29	841
4	2	2	2	4	4	4	4	22	484
5	3	4	4	5	4	5	5	30	900
Jumlah (x)	18	19	20	22	21	23	22	145	4281
Jumlah^2 (x^2)	70	77	86	98	89	107	98		

a. Menghitung Total Varian Butir $\sum \sigma_b^2$

Berikut rumus σ_b^2 dan σ_t^2 :

$$\sigma_b^2 \ / \ \sigma_t^2 = \frac{x^2 - \frac{(x)^2}{n}}{n}$$

Keterangan:

σ_t^2 atau σ_b^2 : Total varian butir

X : Jumlah dari butir pertanyaa

X^2: Jumlah dari setiap butir pertanyaan di kuadratkan

N : Jumlah respondan

1) $\sigma_b^2 = \frac{70 - \frac{18^2}{5}}{5} = 1,04$

2) $\sigma_b^2 = \frac{77 - \frac{19^2}{5}}{5} = 0,96$

3) $\sigma_b^2 = \frac{86 - \frac{20^2}{5}}{5} = 1,2$

4) $\sigma_b^2 = \frac{98 - \frac{22^2}{5}}{5} = 0,24$

5) $\sigma_b^2 = \frac{89 - \frac{21^2}{5}}{5} = 0,16$

6) $\sigma_b^2 = \frac{107 - \frac{23^2}{5}}{5} = 0,24$

7) $\sigma_b^2 = \dfrac{98 - \frac{22^2}{5}}{5} = 0,24$

8) $\sum \sigma_b^2 = 1,04 + 0,96 + 1,2 + 0,24 + 0,16 + 0,24 + 0,24 = 3,84$

b. **Menghitung Total Varians σ_t^2**

$$\sigma_t^2 = \frac{4281 - \dfrac{145^2}{5}}{5} = 4,67$$

c. **Menghitung Koefisien Cronbach Alpha**

$$r = \left[\frac{k}{k-1}\right]\left[1 \frac{\sum \sigma_b^2}{\sigma_t^2}\right]$$

$$r = \left[\frac{7}{7-1}\right]\left[1 - \frac{1,60}{4,67}\right] = \mathbf{0,87}$$

4. Program Arduinno Alat

```
#include <SoftwareSerial.h>
SoftwareSerial
BTSerial(0,1);   // RX | TX
const int satu_LED = 2;
const int dua_LED = 3;
const int tiga_LED = 4;
const int empat_LED = 5;
const int lima_LED = 6;
const int enam_LED = 7;
const int tujuh_LED = 8;
const int delapan_LED = 11;
const int sembilan_LED = 12;
const int sepuluh_LED = 13;
const int sebelas_LED = A0;
const int duabelas_LED = A1;
const int tigabelas_LED =
A2;
const int empatbelas_LED =
A3;
const int limabelas_LED =
A4;

char state;
int flag=0; //makes sure
that the serial only prints
once the state

void setup() {
 // sets the pins as
outputs:
 pinMode(satu_LED, OUTPUT);
 pinMode(dua_LED, OUTPUT);
 pinMode(tiga_LED, OUTPUT);
 pinMode(empat_LED, OUTPUT);
 pinMode(lima_LED, OUTPUT);
 pinMode(enam_LED, OUTPUT);
 pinMode(tujuh_LED, OUTPUT);
 pinMode(delapan_LED,
OUTPUT);
 pinMode(sembilan_LED,
OUTPUT);
 pinMode(sepuluh_LED,
OUTPUT);
```

```
pinMode(sebelas_LED,
OUTPUT);
pinMode(duabelas_LED,
OUTPUT);
pinMode(tigabelas_LED,
OUTPUT);
pinMode(empatbelas_LED,
OUTPUT);
pinMode(limabelas_LED,
OUTPUT);
Serial.begin(9600);
BTSerial.begin(38400);
}

void loop() {
 //if some date is sent,
reads it and saves in state
if(Serial.available() > 0){
state = Serial.read();
flag=0;
 }
if    (state   ==   'A')
{digitalWrite(satu_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'B') {
digitalWrite(dua_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'C') {
digitalWrite(tiga_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
```

```
else if (state == 'D') {
digitalWrite(empat_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'E') {
digitalWrite(lima_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'F') {
digitalWrite(enam_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'G') {
digitalWrite(tujuh_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'H') {
digitalWrite(delapan_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'I') {
digitalWrite(sembilan_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'J') {
digitalWrite(sepuluh_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'K') {
```

```
digitalWrite(sebelas_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'L') {
digitalWrite(duabelas_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'M') {
digitalWrite(tigabelas_LED,
HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'N') {
digitalWrite(empatbelas_LED
, HIGH);
 if(flag == 0){
 flag=1;}}
else if (state == 'O') {
digitalWrite(limabelas_LED,
HIGH);
 if(flag == 0){
 flag=1;}}

else if (state == 'X') {
digitalWrite(satu_LED,
LOW);
digitalWrite(dua_LED, LOW);
digitalWrite(tiga_LED,LOW);
digitalWrite(empat_LED,
LOW);
digitalWrite(lima_LED,
LOW);
digitalWrite(enam_LED,
LOW);
```

```
digitalWrite(tujuh_LED,
LOW);
digitalWrite(delapan_LED,
LOW);
digitalWrite(sembilan_LED,
LOW);
digitalWrite(sepuluh_LED,
LOW);
digitalWrite(sebelas_LED,
LOW);
digitalWrite(duabelas_LED,
LOW);
digitalWrite(tigabelas_LED,
LOW);
digitalWrite(empatbelas_LED
, LOW);
digitalWrite(limabelas_LED,
LOW);
 if(flag == 0){
 flag=1;
 }}}
```

5. Program Aplikasi

```
when ListPicker1 .BeforePicking
do  set ListPicker1 . Elements to   BluetoothClient1 . AddressesAndNames
```

```
when ListPicker1 .AfterPicking
do  set ListPicker1 . Selection to   call BluetoothClient1 .Connect
                                              address  ListPicker1 . Selection
    set ListPicker1 . Text to  " TERHUBUNG "
    call Sound1 .Play
```

```
when ListPicker1 .TouchDown
do  call BluetoothClient1 .Disconnect
    set ListPicker1 . Text to  " HUBUNGKAN BLUETOOTH "
```

```
when Button1 .Click
do  call BluetoothClient1 .SendText
                              text  " A "
    set TextBox1 . Text to  " CIRCLE "
```

```
when Button1 .LongClick
do  call BluetoothClient1 .SendText
                              text  " X "
    set TextBox1 . Text to  " LED OFF "
```

```
when Button2 .Click
do  call BluetoothClient1 .SendText
                              text  " B "
    set TextBox1 . Text to  " TES WARNA MERAH "
```

```
when Button2 .LongClick
do  call BluetoothClient1 .SendText
                              text  " X "
    set TextBox1 . Text to  " LED OFF "
```

```
when Button3 .Click
do  call BluetoothClient1 .SendText
                              text  " C "
    set TextBox1 . Text to  " TES WARNA HIJAU "
```

```
when Button3 .LongClick
do  call BluetoothClient1 .SendText
                              text  " X "
    set TextBox1 . Text to  " LED OFF "
```

```
when Button4 .Click
do  call BluetoothClient1 .SendText
                              text  " D "
    set TextBox1 . Text to  " 20/200 ( E ) "
```

```
when Button4 .LongClick
do  call BluetoothClient1 .SendText
                              text  " X "
    set TextBox1 . Text to  " LED OFF "
```

```
when Button5 .Click
do  call BluetoothClient1 .SendText
                              text  " E "
    set TextBox1 . Text to  " 20/200 ( 4 ) "
```

```
when Button5 .LongClick
do  call BluetoothClient1 .SendText
                              text  " X "
    set TextBox1 . Text to  " LED OFF "
```

```
when Button6 .Click
do  call BluetoothClient1 .SendText
                              text  " F "
    set TextBox1 . Text to  " 20/100 ( C ) "
```

```
when Button6 .LongClick
do  call BluetoothClient1 .SendText
                              text  " X "
    set TextBox1 . Text to  " LED OFF "
```

```
when Button7 .Click
do  call BluetoothClient1 .SendText
                              text  " G "
    set TextBox1 . Text to  " 20/100 ( 1 ) "
```

```
when Button7 .LongClick
do  call BluetoothClient1 .SendText
                              text  " X "
    set TextBox1 . Text to  " LED OFF "
```

```
when  Button8 · .Click
do    call  BluetoothClient1 · .SendText
                              text   " H "
      set  TextBox1 · . Text · to   " 20/70 ( L F ) "
```

```
when  Button8 · .LongClick
do    call  BluetoothClient1 · .SendText
                              text   " X "
      set  TextBox1 · . Text · to   " LED OFF "
```

```
when  Button9 · .Click
do    call  BluetoothClient1 · .SendText
                              text   " I "
      set  TextBox1 · . Text · to   " 20/70 ( 7 1 ) "
```

```
when  Button9 · .LongClick
do    call  BluetoothClient1 · .SendText
                              text   " X "
      set  TextBox1 · . Text · to   " LED OFF "
```

```
when  Button10 · .Click
do    call  BluetoothClient1 · .SendText
                              text   " J "
      set  TextBox1 · . Text · to   " 20/50 ( B D P T ) "
```

```
when  Button10 · .LongClick
do    call  BluetoothClient1 · .SendText
                              text   " X "
      set  TextBox1 · . Text · to   " LED OFF "
```

```
when  Button11 · .Click
do    call  BluetoothClient1 · .SendText
                              text   " K "
      set  TextBox1 · . Text · to   " 20/50 ( 0 4 7 1 ) "
```

```
when  Button11 · .LongClick
do    call  BluetoothClient1 · .SendText
                              text   " X "
      set  TextBox1 · . Text · to   " LED OFF "
```

```
when  Button12 · .Click
do    call  BluetoothClient1 · .SendText
                              text   " L "
      set  TextBox1 · . Text · to   " 20/40 ( E O F ), 20/30 ( Z B D), 20/25 ( E O L ) "
```

```
when  Button12 · .LongClick
do    call  BluetoothClient1 · .SendText
                              text   " X "
      set  TextBox1 · . Text · to   " LED OFF "
```

```
when  Button13 · .Click
do    call  BluetoothClient1 · .SendText
                              text   " M "
      set  TextBox1 · . Text · to   " 20/40 ( 1 7 4), 20/30 ( 4 7 1), 20/25 ( 7 4 0) "
```

```
when  Button13 · .LongClick
do    call  BluetoothClient1 · .SendText
                              text   " X "
      set  TextBox1 · . Text · to   " LED OFF "
```

```
when  Button14 · .Click
do    call  BluetoothClient1 · .SendText
                              text   " N "
      set  TextBox1 · . Text · to   " 20/20 ( F C T), 20/15 ( B T P), 20/13 ( O E L ) "
```

```
when  Button14 · .LongClick
do    call  BluetoothClient1 · .SendText
                              text   " X "
      set  TextBox1 · . Text · to   " LED OFF "
```

```
when  Button15 · .Click
do    call  BluetoothClient1 · .SendText
                              text   " O "
      set  TextBox1 · . Text · to   " 20/20 ( 1 0 7 ), 20/15 ( 7 4 0 ), 20/13 ( 1 7 4 ) "
```

```
when  Button15 · .LongClick
do    call  BluetoothClient1 · .SendText
                              text   " X "
      set  TextBox1 · . Text · to   " LED OFF "
```

```
when  Button16 · .Click
do    call  BluetoothClient1 · .SendText
                              text   " X "
      set  TextBox1 · . Text · to   " LED OFF "
```