

## DAFTAR PUSTAKA

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## LAMPIRAN PROGRAM

```
#include <mega16.h>
#include <delay.h>
#include <alcd.h>

// Standard Input/Output functions
#include <stdio.h>

#define buz_on PORTA.7=1
#define buz_off PORTA.7=0
#define lock_on PORTA.6=1
#define lock_off PORTA.6=0
#define remote_on PORTC.5=0
#define remote_off PORTC.5=1

#define o1_on PORTA.0=1
#define o2_on PORTA.1=1
#define o3_on PORTA.2=1
#define o4_on PORTA.3=1

#define o1_off PORTA.0=0
#define o2_off PORTA.1=0
```



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```
#define o3_off PORTA.2=0
```

```
#define o4_off PORTA.3=0
```

```
#define in1 PINC.0
```

```
#define in2 PINC.1
```

```
#define in3 PINC.2
```

```
#define in4 PINC.3
```

```
#define tempat_k PIND.5
```

```
#define emr PIND.6
```

```
#define tmb PIND.7
```

```
#define rs PINC.6
```

```
unsigned char data_rx,text[13],buff[35],stat,maling;
```

```
int x,d;
```

```
unsigned char UartGetChar()
```

```
{
```

```
unsigned long tout=0;
```

```
unsigned char dat;
```

```
for(;;)
```

```
{
```

```
if(UCSRA & (1<<RXC))
```

```
{
```

```
dat= UDR;
```

```
break;
```

```
}
```



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```

        tout++;
        if(tout>1000)
            {
                dat='-';
                break;
            }
    }
return dat;
}

```

```

void get_rf()
{x=0;
data_rx=UartGetChar();
if(data_rx==0x02){buz_on;
for (d=0;d<=11;d++)
{
text[d]=UartGetChar();x=1;
}buz_off;}}

```

```

void main(void)
{
PORTA=0x00;DDRA=0xFF;
PORTC=0xff;DDRC=0x00;
PORTD=0xff;DDRD=0x00;

// USART initialization

// Communication Parameters: 8 Data, 1 Stop, No Parity

```



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```

// USART Receiver: On
// USART Transmitter: On
// USART Mode: Asynchronous
// USART Baud Rate: 9600
UCSRA=0x00;
UCSRB=0x18;
UCSRC=0x86;
UBRRH=0x00;
UBRRL=0x47;

// Analog Comparator: Off
// Analog Comparator Input Capture by Timer/Counter 1: Off
ACSR=0x80;
lcd_init(16);
lcd_clear();
stat=0;maling=0;
DDRC.6=0;PORTC.6=1;
DDRC.5=1;PORTC.5=0;
while (1)
{
remote_on;

lcd_gotoxy(0,0);lcd_putsf("Tempelkan RFID");

get_rf();

if (x==1){

//sprintf(buff,"%c%c%c%c",text[8],text[9],text[10],text[11]);

//lcd_gotoxy(5,0);lcd_puts(buff);delay_ms(1000);

lcd_gotoxy(0,1);lcd_putsf("Silahkan masuk ");

```

```

    if (text[8]=='D' && text[9]=='E' && text[10]=='F' &&
text[11]=='3'){o1_on;lock_on;buz_off;delay_ms(5000);lock_off;stat=1;maling=0;}

    }

    if (stat==1 && rs==1){lcd_gotoxy(0,1);lcd_putsf(" Pintu Terbuka
");buz_on;delay_ms(200);buz_off;delay_ms(200);}

    if(rs==1 && stat==0){buz_on;maling=1;} // ada maling

    //baca data remote

    if (tempat_k==1){

        if (in1==0 && PORTA.0==0){PORTA.0=1;} else {if(in1==0 &&
PORTA.0==1){PORTA.0=0;}}

        if (in2==0 && PORTA.1==0){PORTA.1=1;} else {if(in2==0 &&
PORTA.1==1){PORTA.1=0;}}

        if (in3==0 && PORTA.2==0){PORTA.2=1;} else {if(in3==0 &&
PORTA.2==1){PORTA.2=0;}}

        if (in4==0 && PORTA.3==0){PORTA.3=1;} else {if(in4==0 &&
PORTA.3==1){PORTA.3=0;}}

    }

    //reset remote

    if (in1==0 || in2==0 || in3==0 || in4==0){delay_ms(100);remote_off;delay_ms(100);}

    if (tempat_k==0){PORTA.0=PORTA.1=PORTA.2=PORTA.3=0;}

    //emergency

    if (emr==0){lock_on;buz_on;delay_ms(5000);lock_off;}

    if (tmb==0 && maling==0){lock_on;delay_ms(5000);lock_off;stat=1;}

    if (rs==0){stat=0;lcd_gotoxy(0,1);lcd_putsf(" Kamar Pintar ");}

    }

}

```



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