

```

#include <Wire.h>

#define LED_PIN 13
char val; // variable to receive data from the serial port
int ledpin = 2; // LED connected to pin 2 (on-board LED)

void setup()
{
  pinMode(ledpin = 2, OUTPUT); // pin 2 (on-board LED) as OUTPUT
  pinMode(ledpin = 3, OUTPUT);
  pinMode(ledpin = 4, OUTPUT);
  pinMode(ledpin = 5, OUTPUT);
  pinMode(ledpin = 6, OUTPUT);
  pinMode(ledpin = 7, OUTPUT);
  pinMode(ledpin = 8, OUTPUT);
  pinMode(ledpin = 9, OUTPUT);
  pinMode(ledpin = 10, OUTPUT);
  pinMode(ledpin = 11, OUTPUT);
  pinMode(ledpin = 12, OUTPUT); // pin 3 (on-board LED) as OUTPUT

  digitalWrite(ledpin = 2, LOW);
  digitalWrite(ledpin = 3, LOW);
  digitalWrite(ledpin = 4, LOW);
  digitalWrite(ledpin = 5, LOW);
  digitalWrite(ledpin = 6, LOW);
  digitalWrite(ledpin = 7, LOW);
  digitalWrite(ledpin = 8, LOW);
  digitalWrite(ledpin = 9, LOW);
  digitalWrite(ledpin = 10, LOW);
  digitalWrite(ledpin = 11, LOW);
  digitalWrite(ledpin = 12, LOW);

  Serial.begin(9600); // start serial communication at 115200bps

  Wire.begin();
}

void loop()
{
  if( Serial.available() ) // if data is available to read
  {
    ;
  }
  val = Serial.read(); // read it and store it in 'val'
}

```

```
if( val == 'a' )           // if 'a' was received led 2 is switched off
{
  digitalWrite(ledpin = 2, LOW); // turn Off pin 2
}

if( val == 'A' )           // if 'A' was received led 2 on
{
  digitalWrite(ledpin = 2, HIGH); // turn ON pin 2
}

if( val == 'b' )           // if 'b' was received led 3 is switched off
{
  digitalWrite(ledpin = 3, LOW); // turn Off pin 3
}

if( val == 'B' )           // if 'B' was received led 3 on
{
  digitalWrite(ledpin = 3, HIGH); // turn ON pin 3
}

if( val == 'c' )           // if 'B' was received led 3 on
{
  digitalWrite(ledpin = 4, LOW); // turn ON pin 3
}

if( val == 'C' )           // if 'B' was received led 3 on
{
  digitalWrite(ledpin = 4, HIGH); // turn ON pin 3
}

if( val == 'd' )           // if 'B' was received led 3 on
{
  digitalWrite(ledpin = 5, LOW); // turn ON pin 3
}

if( val == 'D' )           // if 'B' was received led 3 on
{
  digitalWrite(ledpin = 5, HIGH); // turn ON pin 3
}

if( val == 'e' )           // if 'B' was received led 3 on
{
  digitalWrite(ledpin = 6, LOW);
  digitalWrite(ledpin = 10, HIGH);
  digitalWrite(ledpin = 12,HIGH);
  delay(4000);
}
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digitalWrite(ledpin = 10, LOW);
digitalWrite(ledpin = 12, LOW);
Wire.beginTransmission(5);
Wire.write('L');
Wire.endTransmission(); // turn ON pin 3
}

if( val == 'E' )          // if 'B' was received led 3 on
{
  digitalWrite(ledpin = 6, HIGH);
  digitalWrite(ledpin = 9, HIGH);
  digitalWrite(ledpin = 11, HIGH);
  delay(4000);
  digitalWrite(ledpin = 9, LOW);
  digitalWrite(ledpin = 11, LOW);
  Wire.beginTransmission(5);
  Wire.write('H');
  Wire.endTransmission(); // turn ON pin 3
}

if( val == 'f' )          // if 'B' was received led 3 on
{
  digitalWrite(ledpin = 7, LOW); // turn ON pin 3
}

if( val == 'F' )          // if 'B' was received led 3 on
{
  digitalWrite(ledpin = 7, HIGH); // turn ON pin 3
}

if( val == 'H' )          // if 'B' was received led 3 on
{
  Wire.beginTransmission(5);
  Wire.write('H');
  Wire.endTransmission(); // turn ON pin 3
}

if( val == 'G' )
{
  Wire.beginTransmission(5);
  Wire.write('G');
  Wire.endTransmission();
}
if( val == 'I' )
{
  Wire.beginTransmission(5);

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```
Wire.write('I');
Wire.endTransmission();
}
if( val == 'J' )
{
Wire.beginTransmission(5);
Wire.write('J');
Wire.endTransmission();
}
if( val == 'K' )
{
Wire.beginTransmission(5);
Wire.write('K');
Wire.endTransmission();
}
if( val == 'h' )
{
digitalWrite(ledpin = 2, HIGH);
delay(8000);
digitalWrite(ledpin = 2, LOW);
}
if( val == 'g' )
{
digitalWrite(ledpin = 3, HIGH);
delay(8000);
digitalWrite(ledpin = 3, LOW);
}
if( val == 'i' )
{
digitalWrite(ledpin = 4, HIGH);
delay(8000);
digitalWrite(ledpin = 4, LOW);
}
if( val == 'j' )
{
digitalWrite(ledpin = 5, HIGH);
delay(8000);
digitalWrite(ledpin = 5, LOW);
}
if( val == 'k' )
{
digitalWrite(ledpin = 2, HIGH);
digitalWrite(ledpin = 3, HIGH);
delay(2000);
digitalWrite(ledpin = 2, LOW);
delay(4000);
```

```
    digitalWrite(ledpin = 3, LOW);
}
if( val == 'l')
{
    digitalWrite(ledpin = 2, HIGH);
    digitalWrite(ledpin = 4, HIGH);
    delay(2000);
    digitalWrite(ledpin = 2, LOW);
    delay(4000);
    digitalWrite(ledpin = 4, LOW);
}
if( val == 'm')
{
    digitalWrite(ledpin = 2, HIGH);
    digitalWrite(ledpin = 5, HIGH);
    delay(2000);
    digitalWrite(ledpin = 2, LOW);
    delay(4000);
    digitalWrite(ledpin = 5, LOW);
}
if( val == 'n')
{
    digitalWrite(ledpin = 2, HIGH);
    digitalWrite(ledpin = 3, HIGH);
    delay(4000);
    digitalWrite(ledpin = 2, LOW);
    digitalWrite(ledpin = 3, LOW);
}
if(val == 'o')
{
    digitalWrite(ledpin = 2, HIGH);
    digitalWrite(ledpin = 4, HIGH);
    delay(4000);
    digitalWrite(ledpin = 2, LOW);
    digitalWrite(ledpin = 4, LOW);
}
if(val == 'p')
{
    digitalWrite(ledpin = 2, HIGH);
    digitalWrite(ledpin = 5, HIGH);
    delay(4000);
    digitalWrite(ledpin = 2, LOW);
    digitalWrite(ledpin = 5, LOW);
}
if( val == 'q')
{
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```
digitalWrite(ledpin = 2, HIGH);
digitalWrite(ledpin = 3, HIGH);
delay(2000);
digitalWrite(ledpin = 3, LOW);
delay(4000);
digitalWrite(ledpin = 2, LOW);
}
if( val == 'r')
{
digitalWrite(ledpin = 2, HIGH);
digitalWrite(ledpin = 4, HIGH);
delay(2000);
digitalWrite(ledpin = 4, LOW);
delay(4000);
digitalWrite(ledpin = 2, LOW);
}
if( val == 's')
{
digitalWrite(ledpin = 2, HIGH);
digitalWrite(ledpin = 5, HIGH);
delay(2000);
digitalWrite(ledpin = 5, LOW);
delay(4000);
digitalWrite(ledpin = 2, LOW);
}
if( val == 't')
{
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 3, HIGH);
delay(2000);
digitalWrite(ledpin = 3, LOW);
delay(4000);
digitalWrite(ledpin = 4, LOW);
}
if( val == 'u')
{
digitalWrite(ledpin = 5, HIGH);
digitalWrite(ledpin = 3, HIGH);
delay(2000);
digitalWrite(ledpin = 3, LOW);
delay(4000);
digitalWrite(ledpin = 5, LOW);
}
if(val == 'v')
{
digitalWrite(ledpin = 3, HIGH);
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```
digitalWrite(ledpin = 4, HIGH);
delay(4000);
digitalWrite(ledpin = 3, LOW);
digitalWrite(ledpin = 4, LOW);
}
if(val == 'w')
{
digitalWrite(ledpin = 3, HIGH);
digitalWrite(ledpin = 5, HIGH);
delay(4000);
digitalWrite(ledpin = 3, LOW);
digitalWrite(ledpin = 5, LOW);
}
if( val == 'x')
{
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 3, HIGH);
delay(2000);
digitalWrite(ledpin = 4, LOW);
delay(4000);
digitalWrite(ledpin = 3, LOW);
}
if( val == 'y')
{
digitalWrite(ledpin = 5, HIGH);
digitalWrite(ledpin = 3, HIGH);
delay(2000);
digitalWrite(ledpin = 5, LOW);
delay(4000);
digitalWrite(ledpin = 3, LOW);
}
if( val == 'z')
{
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 5, HIGH);
delay(2000);
digitalWrite(ledpin = 4, LOW);
delay(4000);
digitalWrite(ledpin = 5, LOW);
}
if(val == 'M')
{
digitalWrite(ledpin = 5, HIGH);
digitalWrite(ledpin = 4, HIGH);
delay(4000);
digitalWrite(ledpin = 5, LOW);
```

```
    digitalWrite(ledpin = 4, LOW);
}
if( val == 'N')
{
    digitalWrite(ledpin = 4, HIGH);
    digitalWrite(ledpin = 5, HIGH);
    delay(2000);
    digitalWrite(ledpin = 5, LOW);
    delay(4000);
    digitalWrite(ledpin = 4, LOW);
}
if( val == 'O')
{
    digitalWrite(ledpin = 2, HIGH);
    digitalWrite(ledpin = 3, HIGH);
    digitalWrite(ledpin = 4, HIGH);
    delay(2000);
    digitalWrite(ledpin = 2, LOW);
    digitalWrite(ledpin = 3, LOW);
    delay(2000);
    digitalWrite(ledpin = 4, LOW);
}
if( val == 'P')
{
    digitalWrite(ledpin = 2, HIGH);
    digitalWrite(ledpin = 3, HIGH);
    digitalWrite(ledpin = 5, HIGH);
    delay(2000);
    digitalWrite(ledpin = 2, LOW);
    digitalWrite(ledpin = 3, LOW);
    delay(2000);
    digitalWrite(ledpin = 5, LOW);
}
if( val == 'Q')
{
    digitalWrite(ledpin = 2, HIGH);
    digitalWrite(ledpin = 3, HIGH);
    digitalWrite(ledpin = 4, HIGH);
    digitalWrite(ledpin = 5, HIGH);
    delay(2000);
    digitalWrite(ledpin = 2, LOW);
    digitalWrite(ledpin = 3, LOW);
    digitalWrite(ledpin = 4, LOW);
    digitalWrite(ledpin = 5, LOW);
}
if( val == 'R')
```



```
{
digitalWrite(ledpin = 3, HIGH);
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 5, HIGH);
delay(2000);
digitalWrite(ledpin = 4, LOW);
digitalWrite(ledpin = 3, LOW);
delay(2000);
digitalWrite(ledpin = 5, LOW);
}
if( val == 'S')
{
digitalWrite(ledpin = 3, HIGH);
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 2, HIGH);
delay(2000);
digitalWrite(ledpin = 4, LOW);
digitalWrite(ledpin = 3, LOW);
delay(2000);
digitalWrite(ledpin = 2, LOW);
}
if( val == 'T')
{
digitalWrite(ledpin = 3, HIGH);
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 5, HIGH);
delay(2000);
digitalWrite(ledpin = 4, LOW);
digitalWrite(ledpin = 5, LOW);
delay(2000);
digitalWrite(ledpin = 3, LOW);
}
if( val == 'U')
{
digitalWrite(ledpin = 2, HIGH);
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 5, HIGH);
delay(2000);
digitalWrite(ledpin = 4, LOW);
digitalWrite(ledpin = 5, LOW);
delay(2000);
digitalWrite(ledpin = 2, LOW);
}
if( val == 'V')
{
digitalWrite(ledpin = 3, HIGH);
```

```
digitalWrite(ledpin = 2, HIGH);
digitalWrite(ledpin = 5, HIGH);
delay(2000);
digitalWrite(ledpin = 2, LOW);
digitalWrite(ledpin = 5, LOW);
delay(2000);
digitalWrite(ledpin = 3, LOW);
}
if( val == 'W')
{
digitalWrite(ledpin = 2, HIGH);
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 5, HIGH);
delay(2000);
digitalWrite(ledpin = 2, LOW);
digitalWrite(ledpin = 5, LOW);
delay(2000);
digitalWrite(ledpin = 4, LOW);
}
if( val == 'X')
{
digitalWrite(ledpin = 2, HIGH);
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 3, HIGH);
delay(2000);
digitalWrite(ledpin = 2, LOW);
digitalWrite(ledpin = 4, LOW);
delay(2000);
digitalWrite(ledpin = 3, LOW);
}
if( val == 'Y')
{
digitalWrite(ledpin = 2, HIGH);
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 5, HIGH);
delay(2000);
digitalWrite(ledpin = 2, LOW);
digitalWrite(ledpin = 4, LOW);
delay(2000);
digitalWrite(ledpin = 5, LOW);
}
if( val == 'Z')
{
digitalWrite(ledpin = 5, HIGH);
digitalWrite(ledpin = 4, HIGH);
digitalWrite(ledpin = 3, HIGH);
```

```
delay(2000);
digitalWrite(ledpin = 3, LOW);
digitalWrite(ledpin = 5, LOW);
delay(2000);
digitalWrite(ledpin = 4, LOW);
}
if( val == '!')
{
digitalWrite(ledpin = 2, HIGH);
digitalWrite(ledpin = 5, HIGH);
digitalWrite(ledpin = 3, HIGH);
delay(2000);
digitalWrite(ledpin = 3, LOW);
digitalWrite(ledpin = 5, LOW);
delay(2000);
digitalWrite(ledpin = 2, LOW);
}
}
```