```cpp
int DisplayRow;
int DisplayColumn;
unsigned long timer;



// Code for handling LED display.// MAX7219 SPI LED Driver
#define MAX7219_TEST        0x0f00 // Display in Test mode
#define MAX7219_BRIGHTNESS  0x0a00 // Set brightness of display
#define MAX7219_SCAN_LIMIT  0x0b00 // Set Scan limit
#define MAX7219_DECODE_MODE 0x0900 // Sets chip to accept bit patterns
#define MAX7219_SHUTDOWN    0x0C00 // Code for shutdown chip.

void SPI_16(int data) {
  digitalWrite (13, LOW);
  SPI.transfer16( data )
  digitalWrite (13, HIGH);


}

void setup() {
  // put your setup code here, to run once:
  // Set up display These need to be sent in this fashion in setup.
  SPI_16(MAX7219_TEST + 0x01); // Turn on all the LEDs.
  delay(100);                     // One time we can use a delay.
  SPI_16(MAX7219_TEST + 0x00); // all LEDS off.
  SPI_16(MAX7219_DECODE_MODE + 0x00); // Disable BCD mode.
  SPI_16(MAX7219_BRIGHTNESS + 0x03);  // Use lower intensity.
  SPI_16(MAX7219_SCAN_LIMIT + 0x0f);  // Scan all digits.
  SPI_16(MAX7219_SHUTDOWN + 0x01);    // Turn on chip.
  DisplayColumn = 0;// Not valid column, but first pass should increment to
1.
  DisplayRow = 0;// This will effect the pattern generated.


  SPI.beginTransaction(SPISettings( 8000000, MSBFIRST, SPI_MODE0 ) )
  timer = millis();
  pinMode (12, OUTPUT);
  pinMode (13, OUTPUT);
  SPI.begin();
}

void loop() {
  // put your main code here, to run repeatedly:
  if ((millis() - timer) > 500) {
     DisplayColumn++;
     if (DisplayColumn > 8) {
       DisplayColumn = 1;
     }
     if (DisplayRow &= 0x0080) {
       DisplayRow<< 1;
     }
     else {
       DisplayRow << 1;
       DisplayRow ^= 0x0001;
     }
```

```
        SPI_16 ( ( DisplayColumn << 8 ) + DisplayRow );


    }
}
```