Code

```
#include <Wire.h>
#include "RTClib.h"
RTC_DS1307 rtc;
// Segment pins A to G
const int segmentPins[7] = {2, 3, 4, 5, 6, 7, 8};
// Digit cathode control pins
const int digitPins[4] = {9, 10, 11, 12};
// Segment codes for 0-9
const byte digitCode[10] = {
  B00111111, // 0
  B00000110, // 1
  B01011011, // 2
  B01001111, // 3
  B01100110, // 4
  B01101101, // 5
  B01111101, // 6
  B00000111, // 7
  B01111111, // 8
  B01101111  // 9
};
void setup() {
  Wire.begin();
  rtc.begin();
  // rtc.adjust(DateTime(F(_DATE), F(TIME_))); // Uncomment once to set time
  for (int i = 0; i < 7; i++) pinMode(segmentPins[i], OUTPUT);
  for (int i = 0; i < 4; i++) pinMode(digitPins[i], OUTPUT);
}
```

```
void loop() {
  DateTime now = rtc.now();
  int hour = now.hour();
  int minute = now.minute();
  int digits[4] = {
    hour / 10,
    hour % 10,
    minute / 10,
    minute % 10
  };
  for (int i = 0; i < 4; i++) {
    showDigit(i, digits[i]);
    delay(5);
    clearDigits();
  }
}
void showDigit(int digitIndex, int number) {
  byte segments = digitCode[number];
  for (int s = 0; s < 7; s++) {
    digitalWrite(segmentPins[s], bitRead(segments, s));
  }
  digitalWrite(digitPins[digitIndex], LOW); // Enable digit
}
void clearDigits() {
  for (int i = 0; i < 4; i++) {
    digitalWrite(digitPins[i], HIGH); // Disable all
  }
}
```