Schematic

to pickit

10kΩ   100Ω   VDD
VDD ——/\/\/——/\/\/—— to pickit   RB7 ——— to pickit
        | RB1 ——— to pickit
       ===   RB5 ————————————————
VGND   RB4 ——/\/\/——
                                            100kΩ
                        RE3   VGND

            r_1
——K|—/\/\/— RA0
            r_1
——K|—/\/\/— RA1
            r_1
——K|—/\/\/— RA2
            r_1
——K|—/\/\/— RA3
            r_1
——K|—/\/\/— RA4
            r_1
——K|—/\/\/— RA5
          === Vss V_{DD} ——|——— VDD
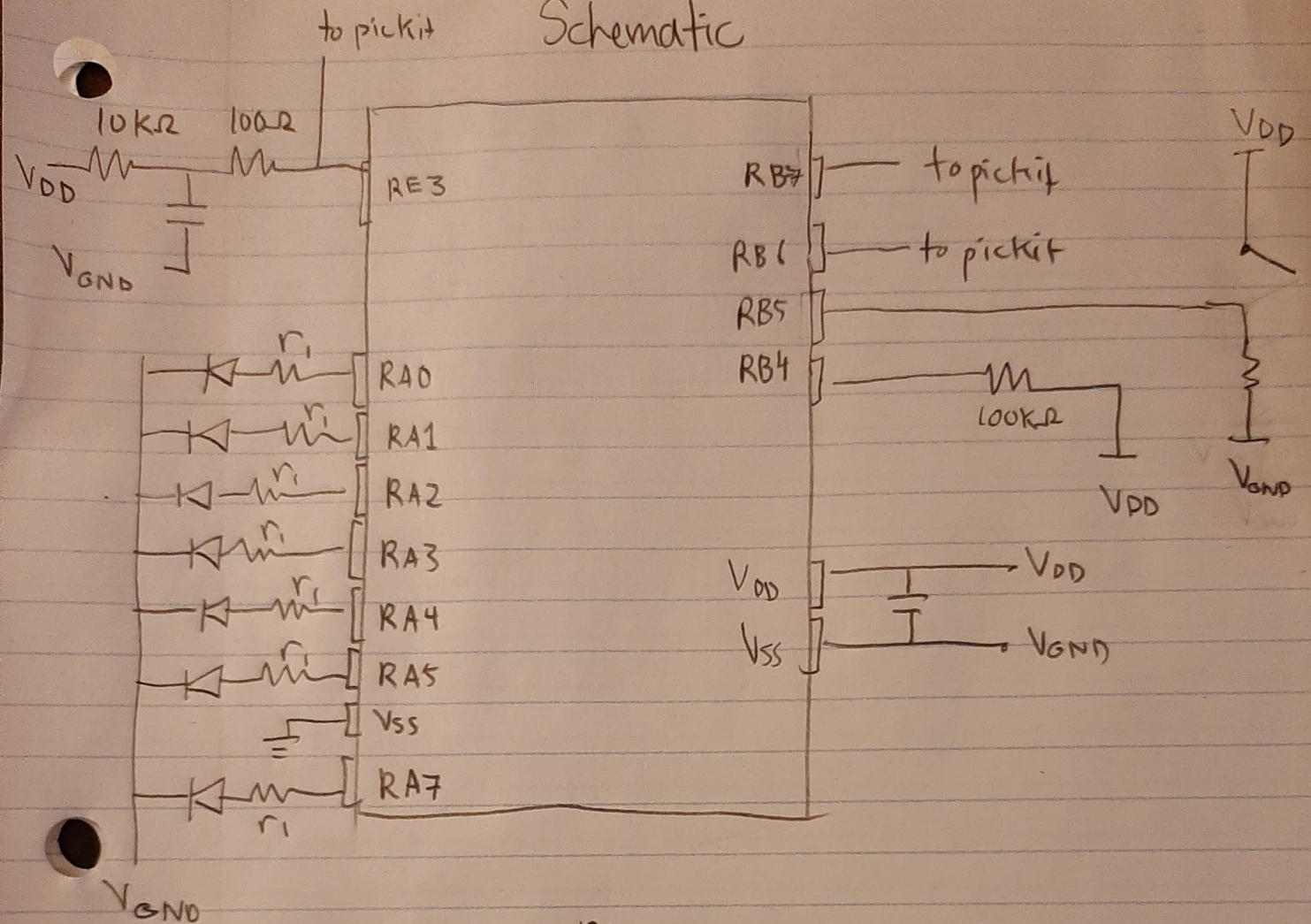——K|—/\/\/— RA7   Vss ===——— VGND
            r_1

VGND

all Diodes are RED LED
$r_1 = 100 \, \Omega$

Flowchart

```
┌─────────────────────────┐
│  RB5 must be            │
│  set as input           │
│  Set TRISB = 0x20       │
│   and ANSELB = 0x00     │
│  for digital input      │
└─────────────────────────┘
            │
            ▼
┌─────────────────────────┐
│  Bit wise logical       │
│   operator AND PORTB    │
│  with 0x20 to bit       │
│  mask and the ideal     │
│       bit /pin          │
└─────────────────────────┘
            │
            ▼
┌─────────────────────────┐
│  Compare previous       │
│  value of RB5 with      │
│   current value by      │◄────┐
│  taking advantage of    │     │
│  the loop that userapp  │     │
│  is in and static       │     │
└─────────────────────────┘     │
            │                    │
            ▼                    │
┌─────────────────────────┐     │
│  check to see if        │     │
│  current == previous    │     │
│      value      value   │     │
│  and then to see        │     │
│  if currentvalue is ON  │     │
└─────────────────────────┘     │
            │                    │
            ▼                    │
┌────────────────────────┐  ┌──────────────────────┐
│  Check to see if       │  │  Update              │
│  it exceeds binary     │─►│  PORTA or output     │
│  number 1100 0000      │  │   of counter by 1    │
│  so as to make sure that│  │  if conditions satisfy│
│    RA7 stays ON        │  └──────────────────────┘
└────────────────────────┘
```