Flowchart

For EPROM Programming

```mermaid
flowchart TD
    Start([Start])
    Init[Initialize all 8255s to the desired modes]
    Scan[/Scanall memory locations/]
    AllLoc{All locations have0FFh?}
    LED[LED 1 glows "NOT EMPTY"]
    Exit([Exit])
    I1((I))

    Start --> Init
    Init --> Scan
    Scan --> AllLoc
    AllLoc -->|No| LED
    LED --> Exit
    AllLoc -->|YES| I1

    I2((I))
    Display[/Display0000 (Memory Location) andFF(Data) on7 segmentdisplays/]
    EnterKey{EnterKey pressed?}
    V((V))
    HexKey{HexKey pressed?}
    Update[/Update MSB Data on7-Segment LED anddata in memory/]
    II((II))

    I2 --> Display
    Display --> EnterKey
    EnterKey -->|Yes| V
    EnterKey -->|No| HexKey
    HexKey -->|No| Display
    HexKey -->|Yes| Update
    Update --> II
```

Start

Initialize all 8255s to the desired modes

Scanall memory locations

All locations have0FFh?

No → LED 1 glows "NOT EMPTY" → Exit

YES

I

I

Display0000 (Memory Location) andFF(Data) on7 segmentdisplays

EnterKey pressed? — Yes → V

No

HexKey pressed? — No

Yes

Update MSB Data on7-Segment LED anddata in memory

II

```
        ( IV )
           │
           ▼
┌──────────────────────┐
│  Make data available │
│   at data lines of   │
│       EPROM          │
└──────────────────────┘
           │
           ▼
┌──────────────────────┐
│   Make address       │
│  available at address│
│   lines of EPROM     │
└──────────────────────┘
           │
           ▼
┌──────────────────────┐
│     55ms delay       │
└──────────────────────┘
           │
           ▼
┌──────────────────────┐
│  Vpp=25V and 50ms    │
│  low pulse sent to CE'│
│     of EPROM.        │
└──────────────────────┘
           │
```

```
                  │
                  ▼
┌──────────────────────┐
│   Read data from     │
│ EPROM and compare    │
│ it with data stored in│
│      memory          │
└──────────────────────┘
                  │
                  ▼
           ╱ Data match? ╲ ──No──▶ ┌──────────────┐      ╭────────╮
           ╲            ╱          │  LED 2 glows │ ────▶│  Exit  │
                  │                │ "PROGRAMMING │      ╰────────╯
                 Yes               │   FAILED"    │
                  │                └──────────────┘
                  ▼
           ╱ All locations ╲ ──Yes──▶ ┌──────────────┐
           ╲  programmed   ╱          │  LED 3 glows │
                  │                   │ "PROGRAMMING │
                 No                   │  COMPLETE"   │
                  │                   └──────────────┘
                  ▼                          │
┌──────────────────────┐                     ▼
│     Increment        │                 ╭────────╮
│  Memory Address      │                 │  Exit  │
└──────────────────────┘                 ╰────────╯
                  │
                  ▼
                ( I )
```