**CONESTOGA**
Connect Life and Learning

**EECE8040**

**ENGINEERING CAPESTONE PROJECT**

**ACHIEVERS**

**GROUP D – THE ACHIEVERS**

**ACCESS CONTROL AND RECORDING**

# Initial Software Creation

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The peripherals which we are going to use in this projects are as follows:

- MFRC 522 RFID Reader
- PC Interface
- LCD
- Switches and LED

So for that initially we have interfaced the pins from microcontroller to that peripherals.

➢ MFRC 522 RFID Reader

| Function | MRFC 522 RFID READER PIN NO | STM32 Nucleo Board PIN NO |
|---|---|---|
| SDA | 1 | CN10-17 |
| SCK | 2 | CN10-11 |
| MOSI | 3 | CN10-15 |
| MISO | 4 | CN10-13 |
| IRQ | 5 | NC |
| GND | 6 | CN10-9 |
| RST | 7 | CN10-19 |
| 3.3V | 8 | CN7-16 |

➢ PC Interface

| Function | STM32 Nucleo Board PIN NO |
|---|---|
| TX | CN7-1 |
| RX | CN7-2 |

➢ LCD

| Function | STM32 Nucleo Board PIN NO |
|---|---|
| RS | CN7-38 |
| R/W | CN7-36 |
| E | CN7-35 |
| D0 | NC |
| D1 | NC |
| D2 | NC |
| D3 | NC |
| D4 | CN7-37 |
| D5 | CN10-34 |
| D6 | CN10-6 |
| D7 | CN10-4 |

> Switches

| Switch NO | STM32 Nucleo Board PIN NO |
|-----------|---------------------------|
| SW0 | CN10-16 |
| SW1 | CN10-30 |
| SW2 | CN10-28 |

After allocating all this pin we have started making code for initializing all the peripherals.
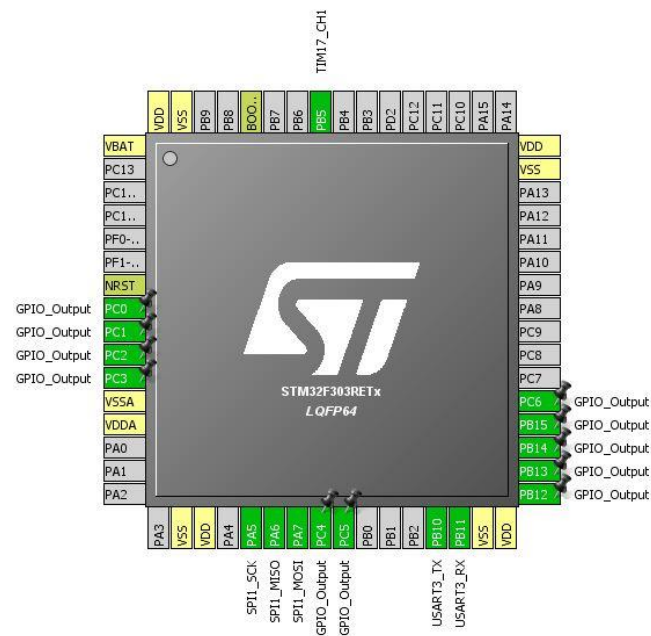


After initializing all these we checked the led with interfacing that to an output pin. Then we have got below output.