# C programming through AVR-GCC

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Contents



***Abstract*—The objective of this manual is to introduce the student to the basic features of programming, like conditional statments, loops, function and arrays using pure C**

## 1 Components

| Component | Value | Quantity |
|---|---|---|
| Breadboard | | 1 |
| Resistor | ≥ 220Ω | 1 |
| Arduino | Uno | 1 |
| Seven Segment Display | Common Anode | 1 |
| Jumper Wires | | 10 |

TABLE 1.0

## 2 C Programming

1. Connect the seven segment display to the arduino.
2. If-Else: Run the following program and test for dec=0 and dec=8.

```
wget https://raw.githubusercontent.com/gadepall
    /arduino/master/avr-gcc/cprog/codes/ifelse.c
```

3. Switch-case and Function: Write a function for writing a decimal number to the seven segment display.

```
wget https://raw.githubusercontent.com/gadepall
    /arduino/master/avr-gcc/cprog/codes/
    sevenseg_func.c
```

4. For loop: Use a for loop to implement a decade counter.

```
wget https://raw.githubusercontent.com/gadepall
    /arduino/master/avr-gcc/cprog/codes/loop.c
```

5. Arrays and Headers: Download and run the C code.

```
wget https://raw.githubusercontent.com/gadepall
    /arduino/master/avr-gcc/cprog/codes/array.c
```

```
wget https://raw.githubusercontent.com/gadepall
    /arduino/master/avr-gcc/cprog/codes/
    sevenseg.h
```

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