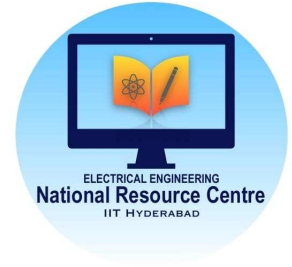




AVR-Assembly Setup



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Abstract—This manual shows how to setup the assembly programming environment for the arduino.

1 COMPONENTS

The components required for this manual are listed in Table 1.0.

Component	Value	Quantity
Arduino	UNO	1

TABLE 1.0

2 SOFTWARE INSTALLATION

1.

```
sudo apt-get install avra  
avrduide geany
```
2. Find the USB port to which arduino is connected.

%Finding the port

```
sudo dmesg | grep tty
%The output will be something
like
[ 6.153362] cdc_acm
1-1.2:1.0: ttyACM0: USB ACM
device
%and your port number is ttyACM0
```

```
cd ~
wget https://raw.githubusercontent.com/gadepall/arduino/master/assembly/setup/m328Pdef/m328Pdef.inc
```

3.

```
wget https://raw.githubusercontent.com/gadepall/arduino/master/assembly/setup/codes/hello.asm
```

5. Open **hello.asm** in **geany**. Go to Build→Set Build Commands→Compile and type

```
avra "%f"
```

6. Then go to Build→Set Build Commands→Execute and type

```
avrduide -p atmega328p -c arduino  
-P /dev/ttyACM0 -b 115200 -U  
flash:w:%e.hex
```

7. In **hello.asm** replace **gadepall** in

```
.include "/home/gadepall/  
m328Pdef.inc"
```

with your username.

8. Connect the arduino to the computer.
9. Compile by pressing **F8**. Execute by pressing **F5**. You should see the led beside pin 13 light up.
10. Now edit **hello.asm** by modifying the line to

```
ldi r17,0b00000000
```

Save and execute. The led should turn off.

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