

## Assembly

### Guide to Installing the Lab software

#### Prerequisites

- Install Ubuntu 16.04 in a Virtual Machine (VMWare or Virtualbox)
- Have a Linux Computer

#### Install libraries

- `sudo apt install nasm gcc-multilib vim`

#### Install Template

##### Download the file

- `wget http://cs.unk.edu/~miller/templateMake.tar.gz`

##### Extract the software

- `tar xzf templateMake.tar.gz`

##### Install software

- `./templateMake/fix.sh`

##### Logout

##### Create a project

- `genMake.sh MyProject`

#### Create a Project

##### Create a project

- `genMake.sh Hello`

##### Enter the projects directory

- `cd projects`

##### Show files in directory

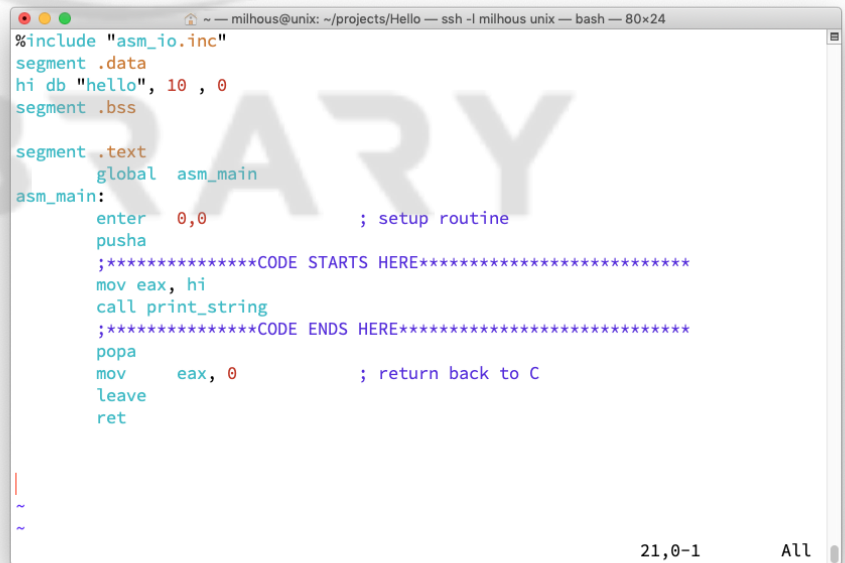
- `ls`

##### Enter the new project directory

- `cd Hello`
- `ls`

##### Use an editor of choice

- I use VI, it's everywhere



```
milhous@unix: ~/projects/Hello — ssh -i milhous unix — bash — 80x24
%include "asm_io.inc"
segment .data
hi db "hello", 10 , 0
segment .bss

segment .text
global asm_main
asm_main:
    enter    0,0           ; setup routine
    pusha
    ;*****CODE STARTS HERE*****
    mov     eax, hi
    call   print_string
    ;*****CODE ENDS HERE*****
    popa
    mov     eax, 0         ; return back to C
    leave
    ret

|
~
21,0-1  All
```

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- vi Hello.ash

Add a string at the top

- hi db "hi",10,0

Add a call to print string

- mov eax, hi
- call print\_string

Compile, run, repeat

- make



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