

1. Download and Install Vmware Player 12.5.2 from here ->  
[https://my.vmware.com/en/web/vmware/free#desktop\\_end\\_user\\_computing/vmware workstation\\_player/12\\_0](https://my.vmware.com/en/web/vmware/free#desktop_end_user_computing/vmware_workstation_player/12_0)
2. Download ubuntu vmware image from here ->  
<https://mega.nz/#!ZRh3mKZC!aLuX2hBOWVnxzYn74oAgV7ZPOWC-ltKLNUfiOWNwcGM>
3. Import virtual machine to vmware if you get an hyper-v error you can check here  
<http://csharpayazilimci.blogspot.com.tr/2014/11/hata-cozumu-vmware-workstation-and.html>
4. Run virtual machine Username: cse312 Password: 1234
5. In Desktop there is a Readme file and sample zip. **Ignore that files format changed!**
6. **HW Format**

Folder: **YourStudentNumber\_HWnumber**

Contents:

```
gtuos.h
gtuos.cpp
main.cpp
ProgramName1.asm
ProgramName2.asm
.
.
.
ProgramNameN.asm
```

For example for first HW filenames must be **PrintNumbers,PrintNumbersRev** etc.

After you complete your homework compress it with zip format with same folder name (**YourStudentNumber\_HWnumber.zip**) and upload it to moodle.

**Care!: Your homework doesn't include 8080emu.cpp or 8080emuCPP.h or any com files !!!**

If your program won't compile in this virtual machine properly you wont get graded.

Sample output for **sum.asm**

```
./emu8080 sum.com 0
```

```
System Call: PRINT_B
Value of B 7
Total Number of Cycles 150
```

./emu8080 sum.com 1

```
0004 PUSH    D            z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP effa
0005 PUSH    H            z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP eff8
0006 PUSH    PSW          z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP eff6
System Call: PRINT_B
Value of B 7
0007 NOP                      z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP eff6
0008 POP      PSW            z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP eff8
0009 POP      H              z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP effa
000a POP      D              z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP effc
000b POP      D              z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP effe
000c RET                      z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP f000
0027 HLT                      z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP f000
Total Number of Cycles 150
```

./emu8080 sum.com 2

```
0006 PUSH    PSW            z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP eff6
System Call: PRINT_B
Value of B 7
0007 NOP                      z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP eff6
0008 POP      PSW            z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP eff8
0009 POP      H              z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP effa
000a POP      D              z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP effc
000b POP      D              z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP effe
000c RET                      z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP f000
0027 HLT                      z.p..  A $01 B $37 C $00 D $00 E $00 H $00 L $00 SP f000
Total Number of Cycles 150
```

You can use cin.get() for waiting keyboard input (ENTER)

Dont forget to save memory content.