

Guide for discussion session 2 ~ 3

1. c/c++ exe and compile

```
g++ -o main main.cpp

# to compile first, then link:
g++ -o main.o -c main.cpp
g++ -o main main.o

# to use debug, add -g in your compile command
e.g.:
g++ -o main main.cpp -g
```

Reference: Makefile in samples

2. c/c++ debug using gdb

```
gdb main
```

will get you into the gdb debug interface. Followings are some useful commands:

- run/r: run your executable file. to add arguments, use
run arg1 agr2 agr3
- break: set break point

```
break 3 # break on line 3
break main # break on function main
```

- next/n: run this line
- step/s: step into this line (function)
- print/p: print a variable, address, ...

```
print a
print n[2]
print *n
```

3. Access your VM using SSH

1. create a host-only network in your Virtual box

- close your VM
 - click left-top tools bottom
 - create a new network by right click in the window on right side
 - click your VM
 - click settings of your VM
 - click network in your new window
 - click Adapter 2
 - click "Enable Network Adapter"
- If you cannot enable network adapter, close your VM first.

- choose Host-only adapter in Attached to
- choose the network you just created in name
- click OK to save your changes.
- open your VM

Now you have two choices:

1. use ifconfig (or corresponding instruction in windows) on your own machine to find the ip address of your VM
2. (RECOMMENDED) open a terminal inside your VM and use ifconfig -a
find the ip address starts with 192.x.x.x, which would be your VM's ip address for your host machine.

2. Access VM using SSH

Open a terminal in your host machine (physical machine), use the command

```
ssh student@192.x.x.x # the ip address you just found
```

press enter, and you will be asked for password

```
developer
```

press enter again. And now you are inside your VM. Your terminal should look like this:

```
student@studentVM:~$
```

4. Access VM using remote connection (VS Code)

VS Code support remote development and can be used to get access to your VM, which is actually a SSH connection. You can find instructions of this online.

```
https://code.visualstudio.com/docs/remote/ssh
```