CMake and Visual Studio Setup

ECE 277

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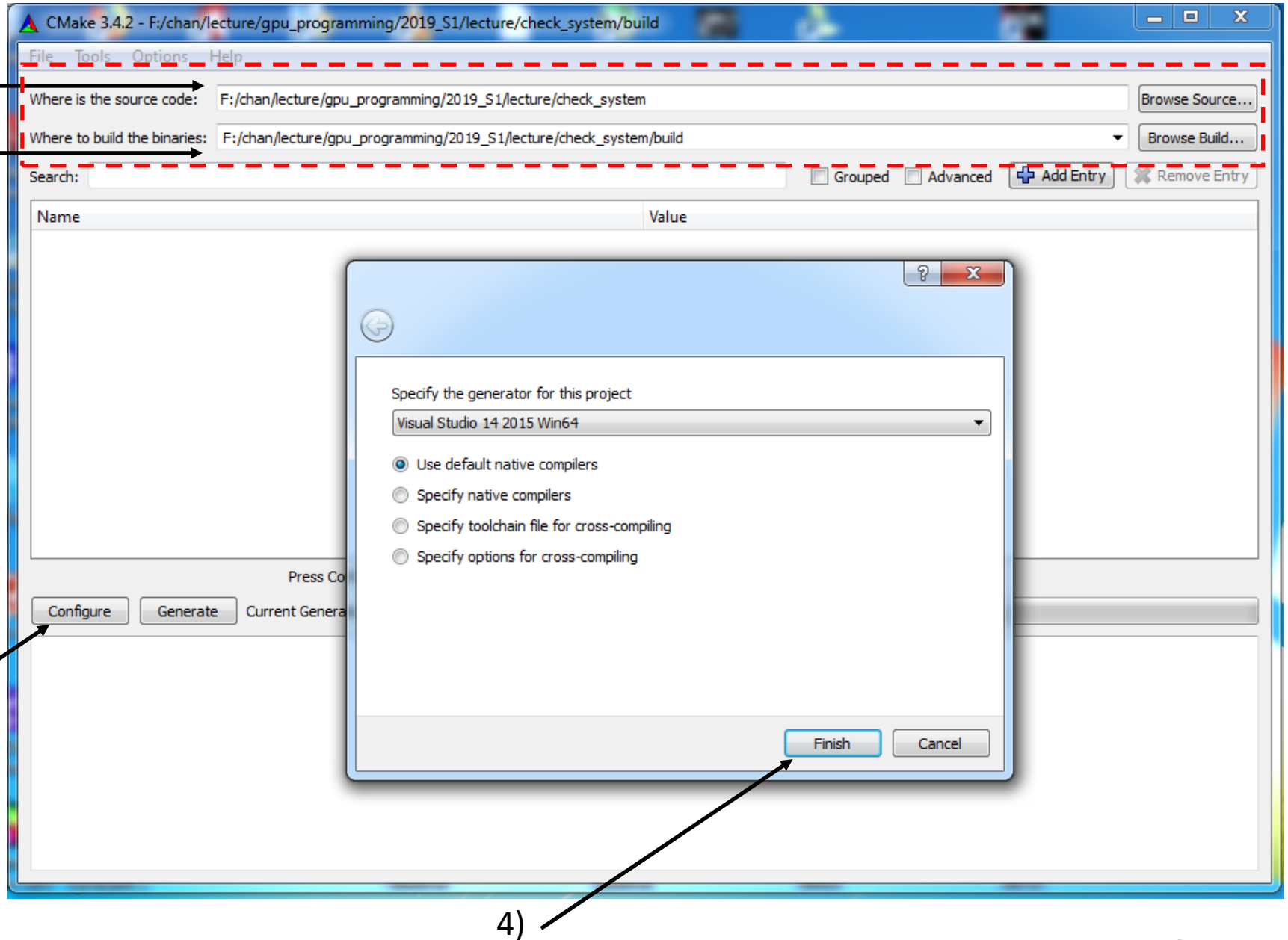
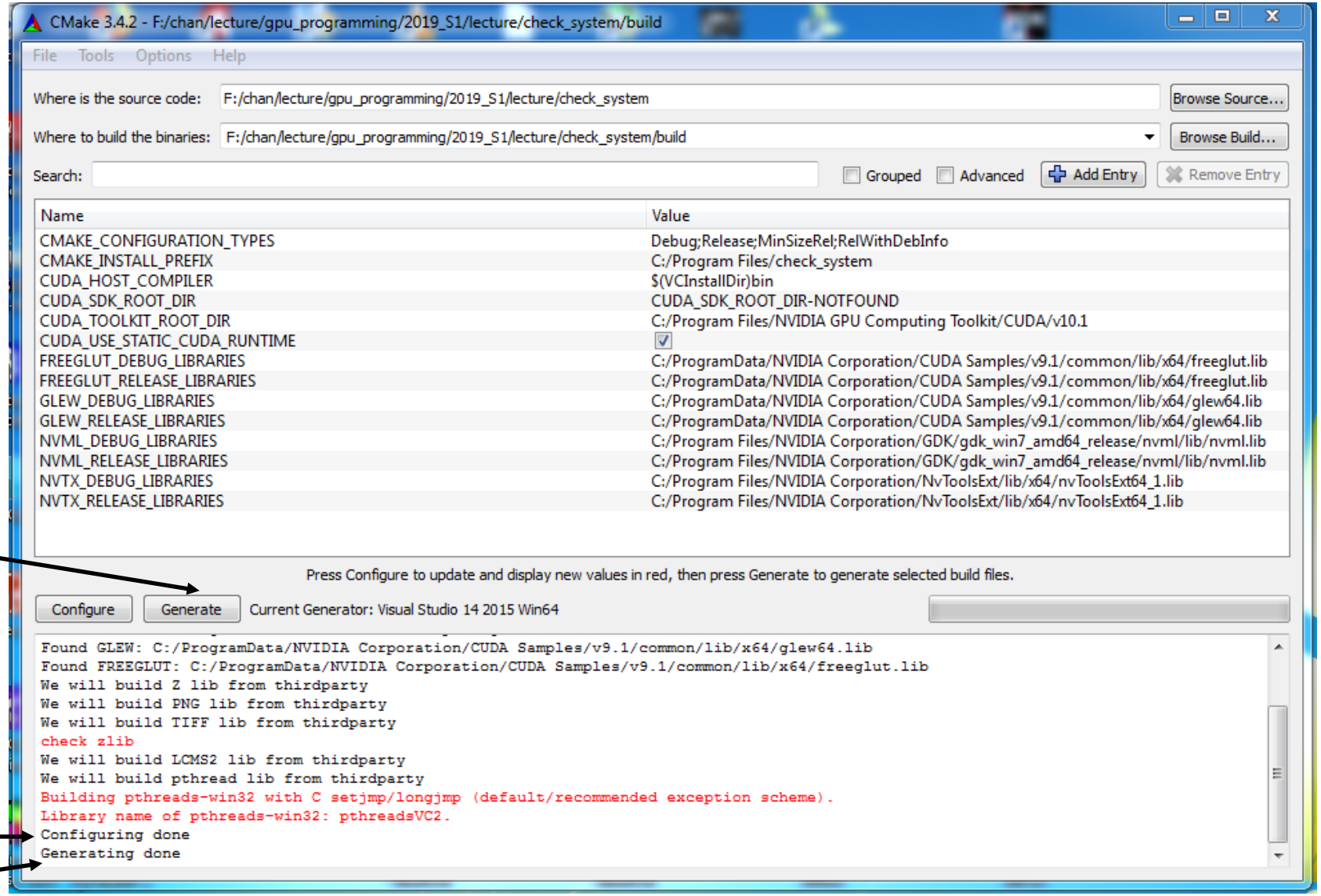
CMake setup: Create a VS project solution

- During this class, we will use CMake to setup automatically visual studio (VS) environment
- CMake parses Cmakelist.txt to generate a visual studio solution file (*.sln)
- The provided Cmakelist.txt is already configured all the parameters to generate a VS solution (*.sln) and projects (*.vcxproj)
- To check installed software in your computer,
  1) Go to the class website “Quiz” under the Canvas (https://canvas.ucsd.edu/)
  2) Download “check_system.zip” under “CMake and VS setup”

1) Setup Root directory of your source
2) Setup Build directory
   It will be created automatically
   Any name will be fine
   (prefer name: **build)**
3) Configure environment
   Choose the installed 64bit version VS
   (Visual Studio 15 2017 **Win64**)
4) Then, “Finish”



5) After finishing configuration, You should see “Configuring done” message without any errors or warnings
6) “Generate” to generate VS solution file (*.sln) under the “Build” directory
7) You should see “Generating done” message



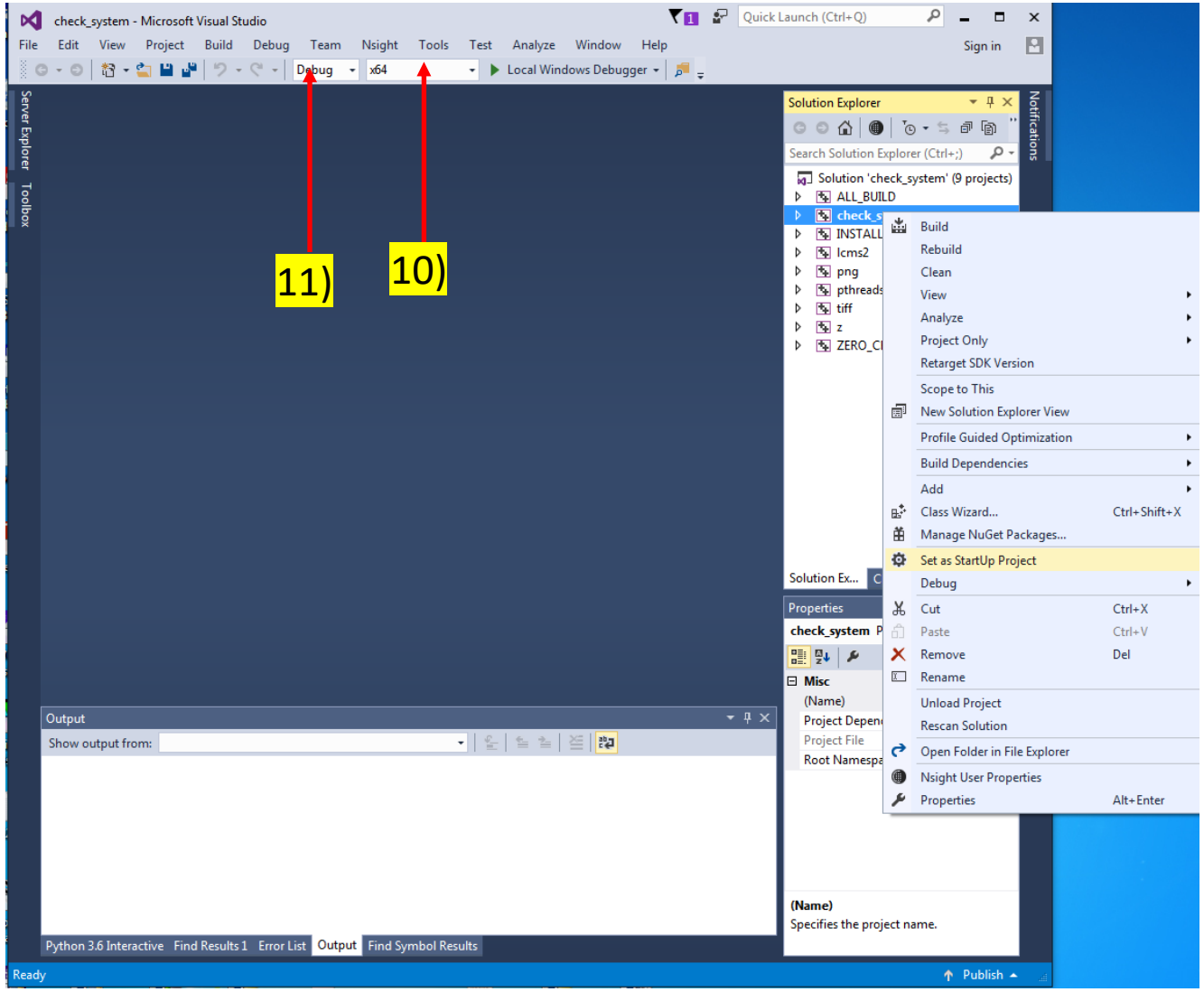
8) Double click the VS solution file, “check_system.sln” (You might can’t see the file extension (sln) -> change your configuration

9) Set “Check_system” project as the startup project (select one project to run)

10) You should see “x64”, otherwise go back to the step 3 and make sure to choose **Win64**

11) Select “Debug” mode for debugging or “Release” mode for running (execution)

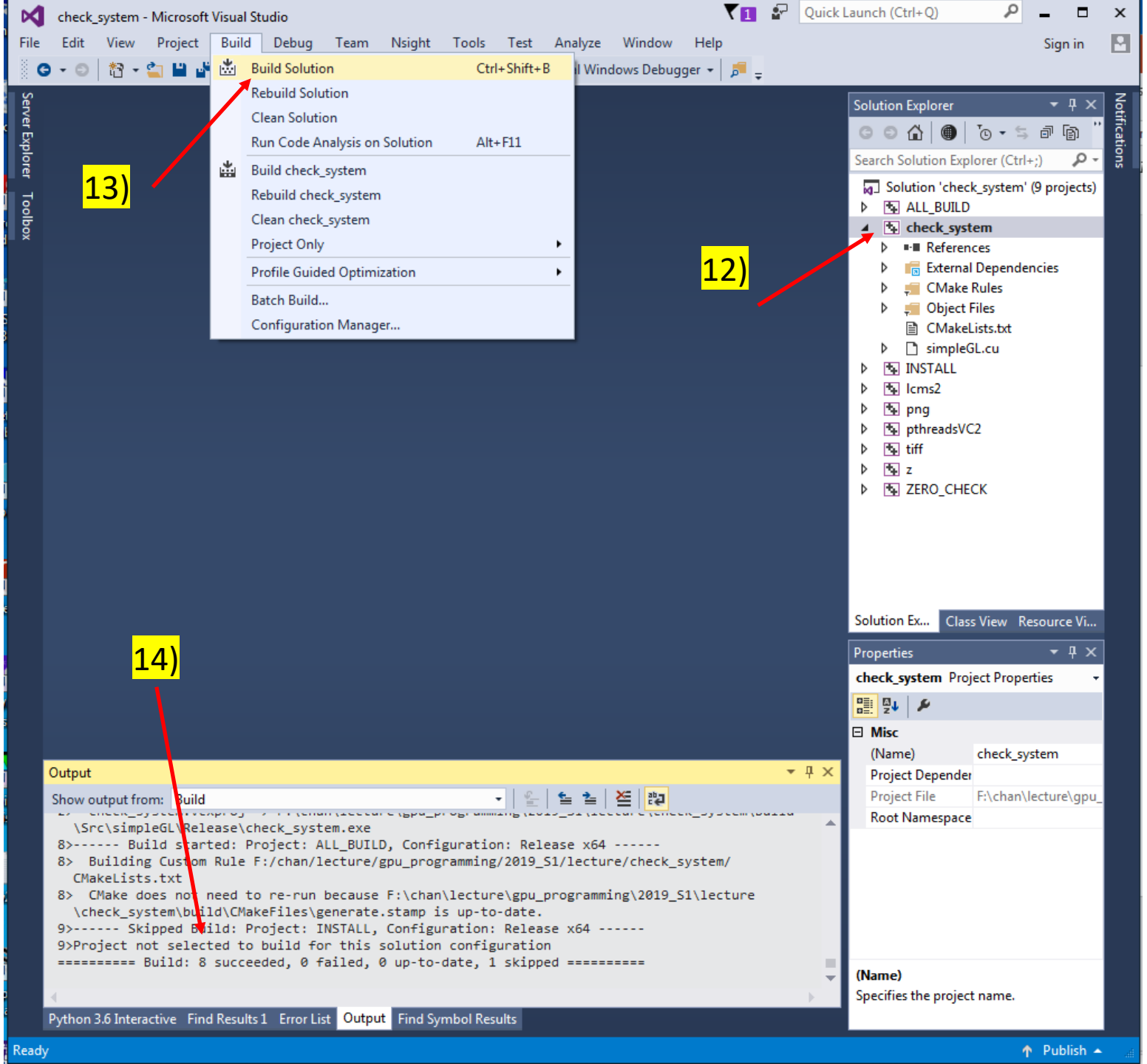
Set “Release” for program execution



12) The “check_system” project should be mark bold, otherwise redo to the step 9

13) “build solution”

14) After “build solution”, you should see the succeeded message without any failed



15) Start program “Start without debugging”

16) After execution, you should see “Cuda GL Interop (VBO)” rendering windows

17) If you can see the OpenGL window, your system is configured correctly for this course.

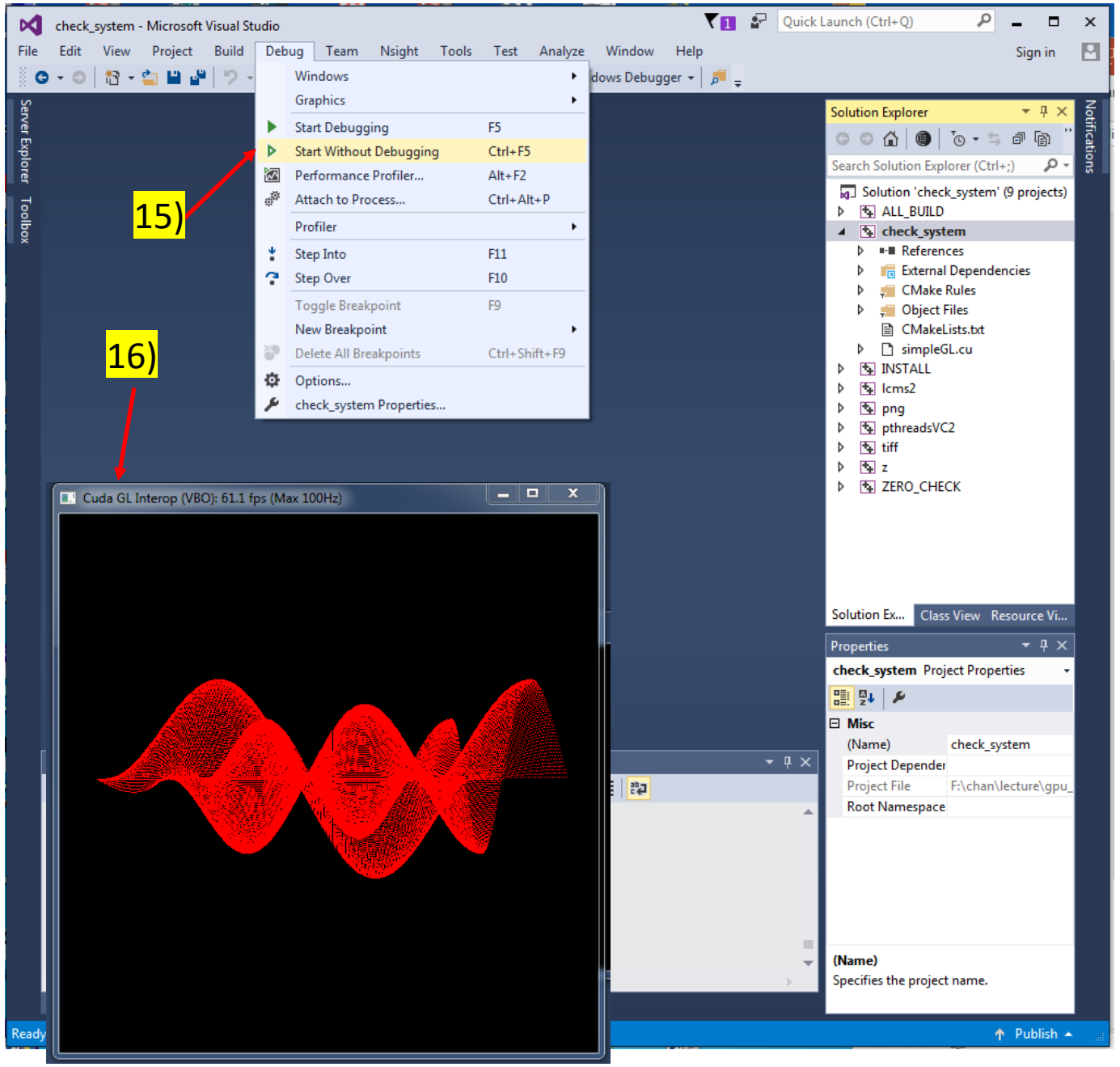
18) Check your site number (last 2 digits) at the monitor

19) Capture your output (#site_number.png) like the right image using the “Paint” program

20) write down your name, student id and site id in one text file (siteid.txt)

21) Upload siteid.txt and #site_id.png files into class website assignment

22) If you encounter any errors, You should switch your site.



Nvidia GPU vs. Intel GPU

- Many motherboards have an intel embedded GPU for graphics
- CUDA can only run on Nvidia GPU, not Intel GPU and AMD GPU
- However, the following configuration is applicable

Configuration	Nvidia GPU	Graphics display
✓	**CUDA (computation only)**	**Intel GPU**
✓	CUDA (computation only)	Nvidia GPU
✓	CUDA (computation and Graphics Interop.)	Nvidia GPU
✕	**CUDA (computation and Graphics Interop.)**	**Intel GPU**