

# SCIT

School of Computing & Information Technology

## CSCI376 – Multicore and GPU Programming

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### Setting up the Visual Studio 2017 Project Environment

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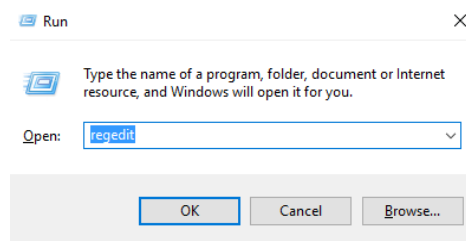
OpenCL SDKs:

- AMD – AMD APP (Accelerated Parallel Processing)
- NVIDIA – CUDA (Compute Unified Device Architecture)
- Intel – Intel SDK for OpenCL Applications

OpenCL uses an “Installable Client Driver” (ICD) model

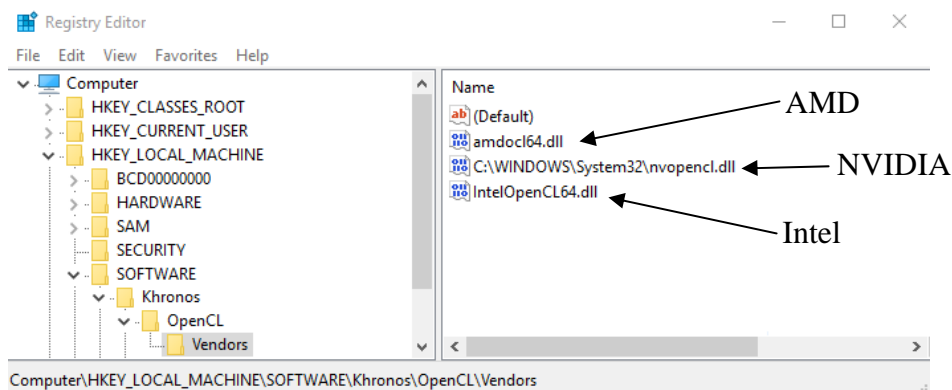
- To allow platforms from different vendors to co-exist
- Applications can choose a platform at runtime

Can check this by running “regedit”:



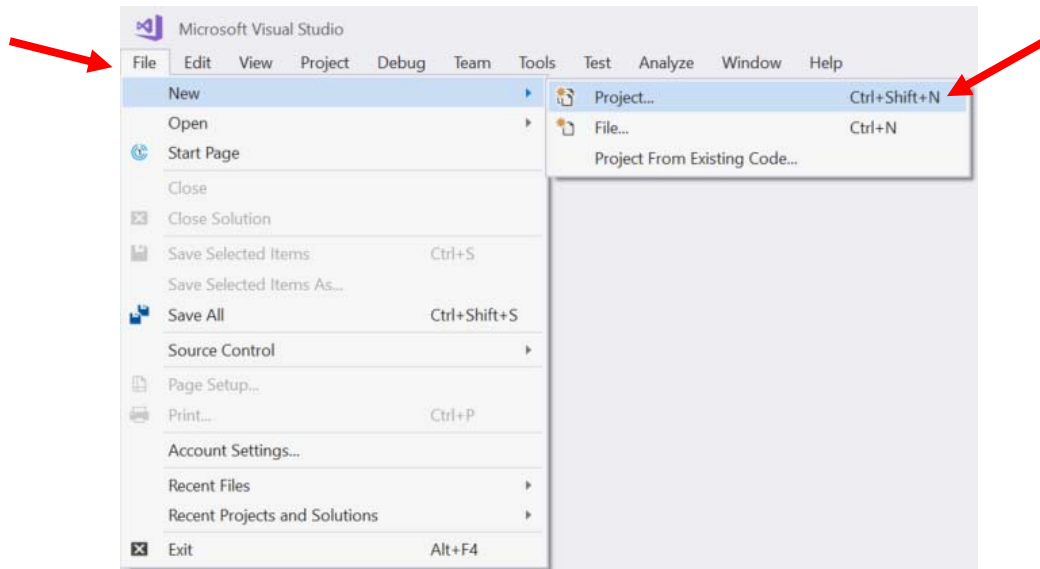
Look for the following folder:

Computer\HKEY\_LOCAL\_MACHINE\SOFTWARE\Khronos\OpenCL\Vendors

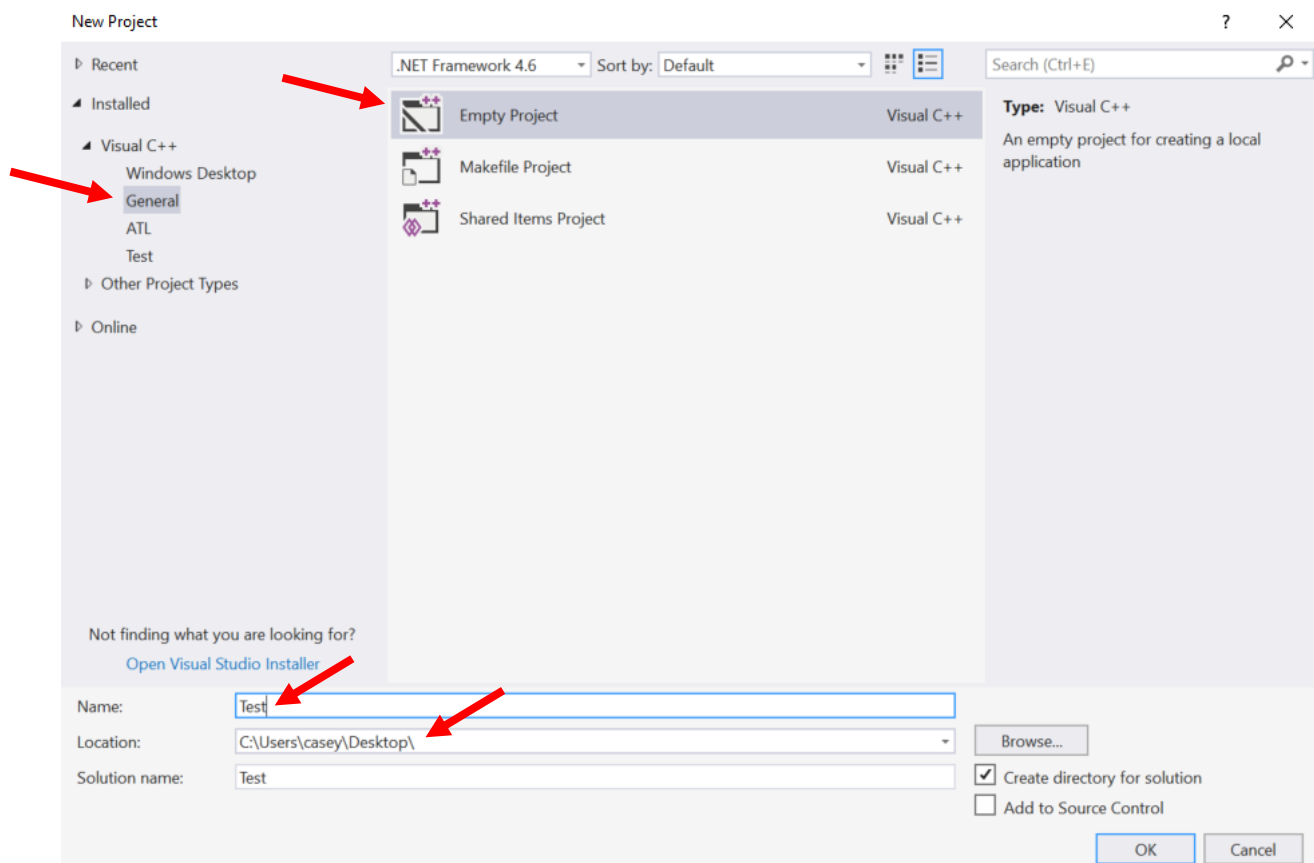


This document will guide you in setting up the Visual Studio environment for using OpenCL with AMD APP SDK.

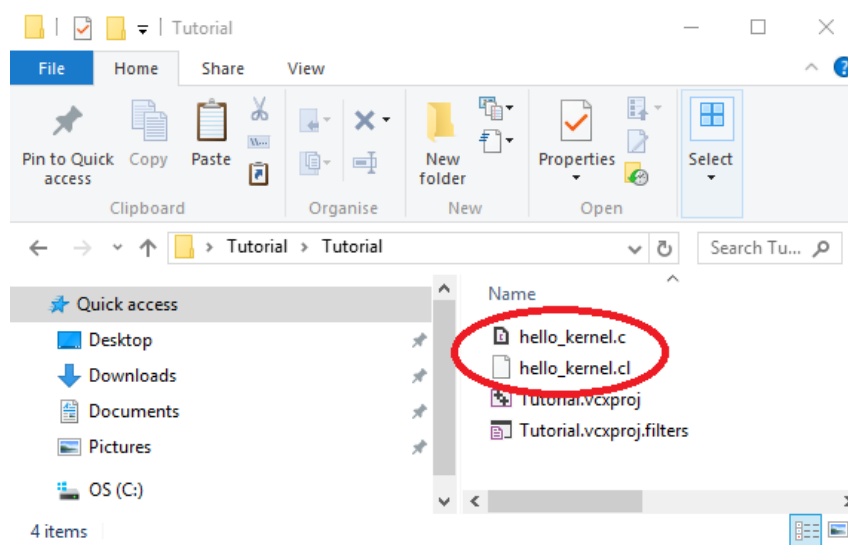
First open Visual Studio. Then create a new project using **FILE** → **New** → **Project**



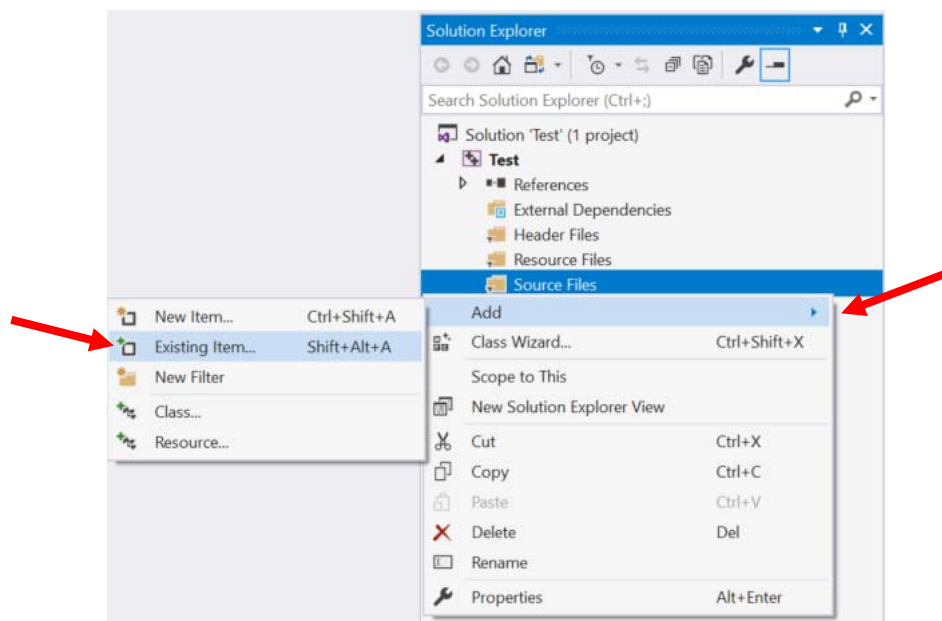
Then select an empty project, choose a project name and location where you want it to be created. Click OK when done.



If you have existing files for the project, then put them in the newly created solution directory:

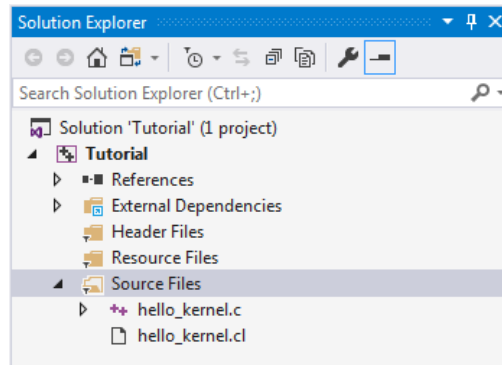


Next, add them to the project by *right* clicking on the appropriate name in **Solution Explorer**. For example, if you want to add a source file:

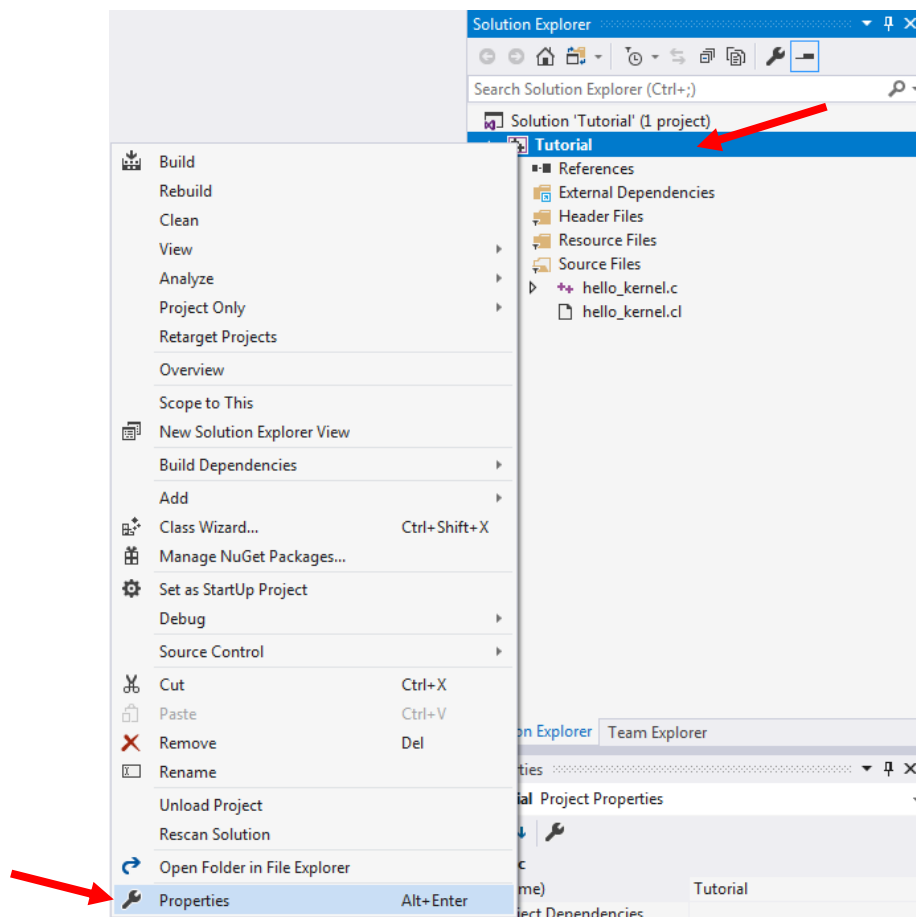


Right click on **Source Files** → **Add** → **Existing Item**, and add the `.c` and `.cl` files to the project.

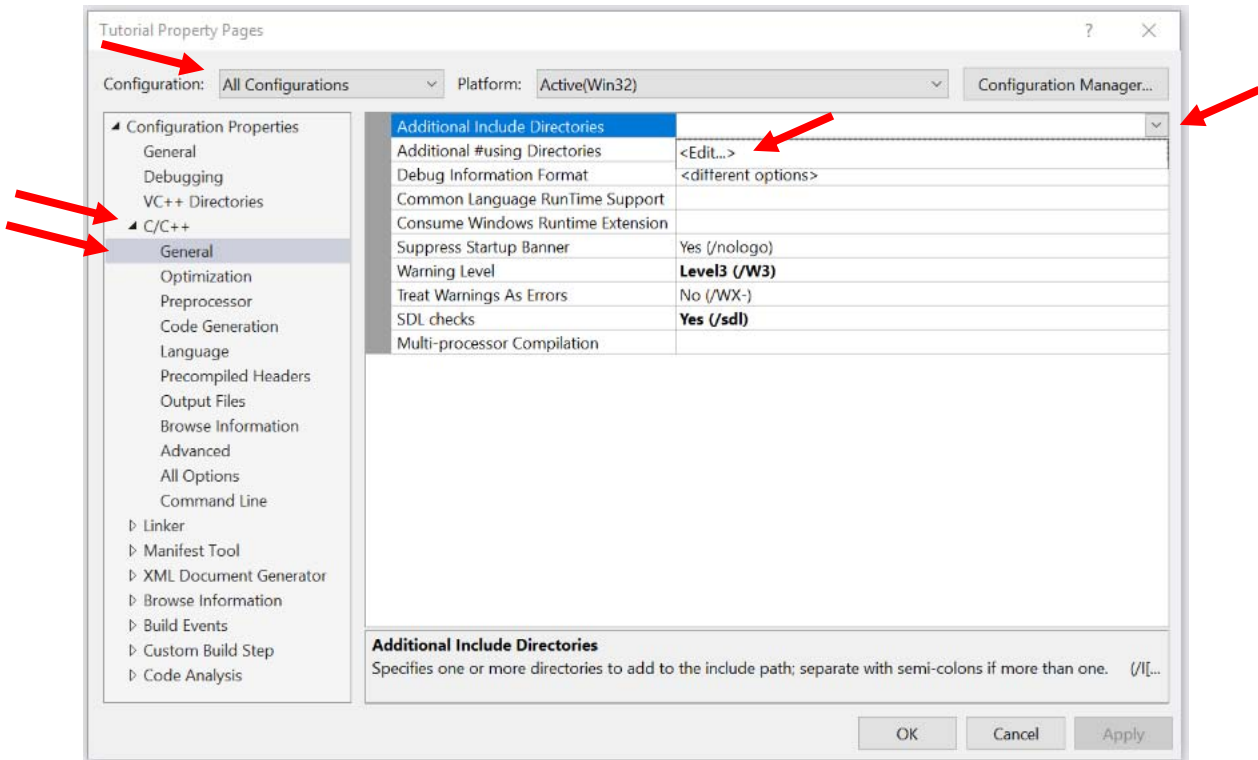
The final contents should look like this:



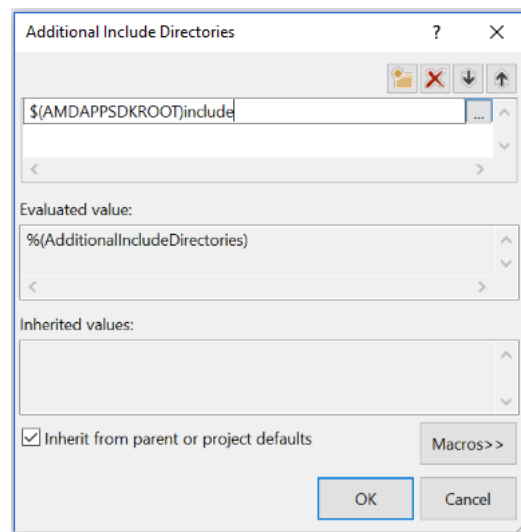
Now open the project properties, by right clicking on the project name and selecting **Properties**:



Switch the properties to apply to 'All Configurations', and under **Configuration Properties** → **C/C++** → **General**, under **Additional Include Directories**, click ☐ and select <Edit...>



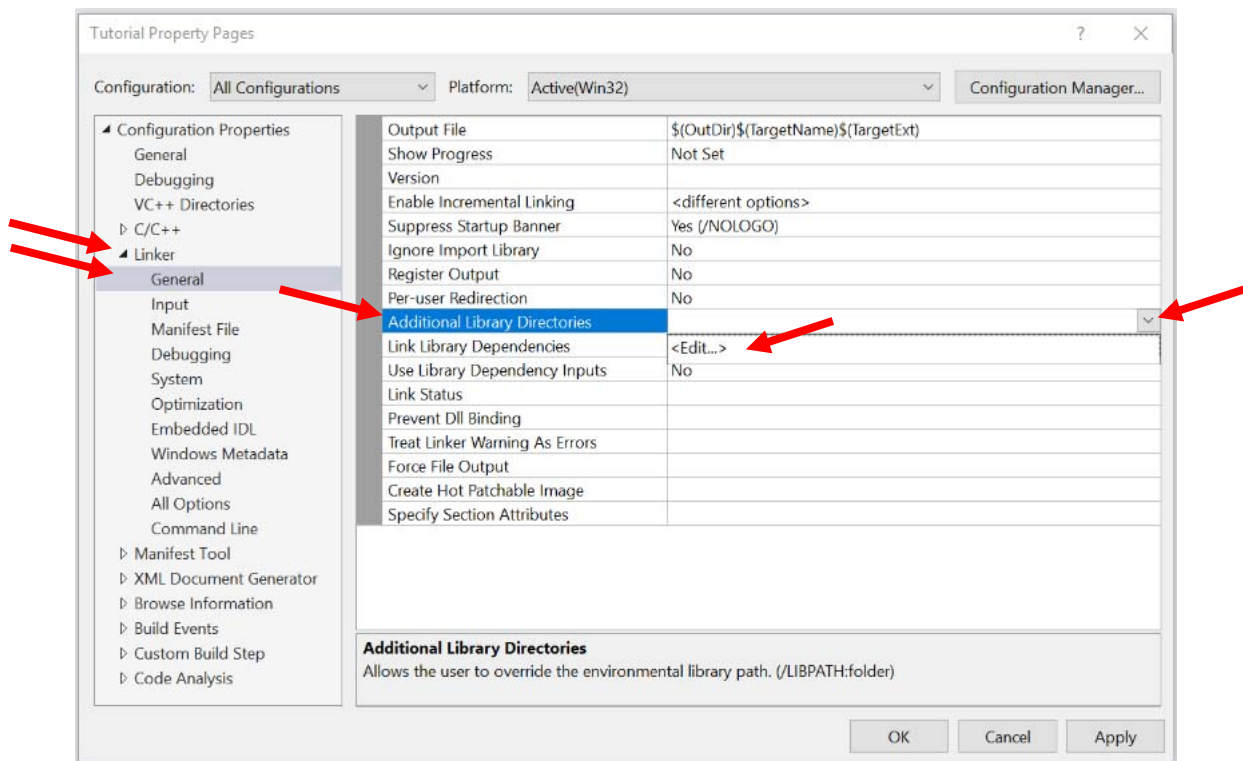
Enter: **\$(AMDAPPSDKROOT)include**



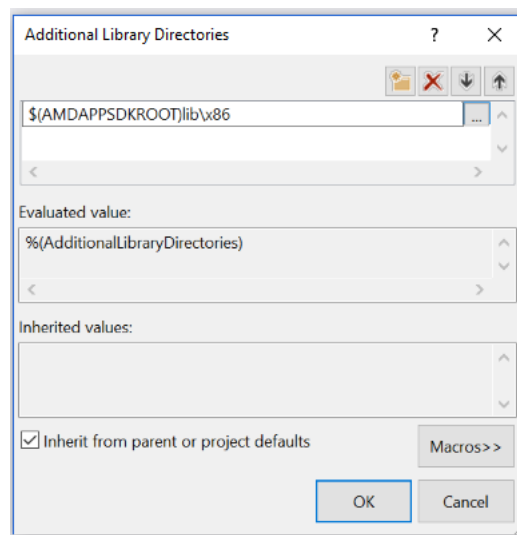
Then click **OK**

**\$(AMDAPPSDKROOT)** is an Environment Variable which should have been set to the correct path after you installed the AMD APP SDK. (If you use the CUDA SDK, you can change this to **\$(CUDA\_PATH)include**)


Then under **Configuration Properties** → **Linker** → **General**, under **Additional Library Directories**, click  and select <Edit...>

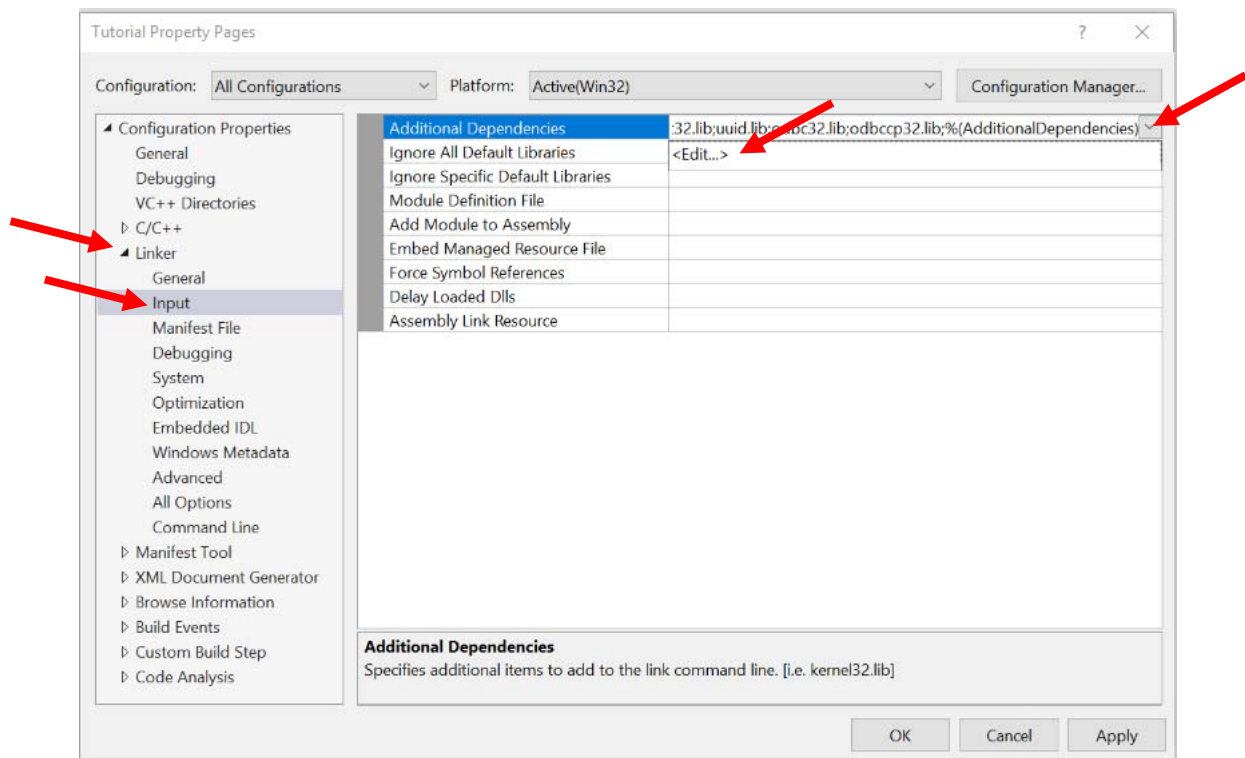


Enter: **\$(AMDAPPSDKROOT)lib\x86**

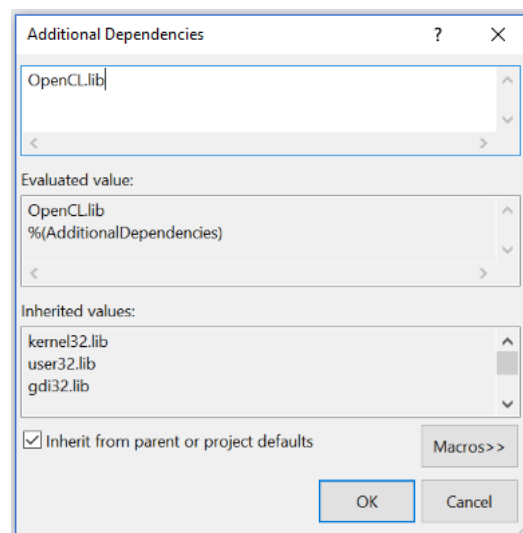


Then click **OK**

Next, under **Configuration Properties** → **Linker** → **Input**, under **Additional Dependencies**, click  and select <Edit...>



Enter: **OpenCL.lib**



Then click **OK**

Finally, click **Apply** and **OK**

That's it, done... not too difficult 😊