Setting Up Igraphics

July 2023

Igraphics is a library built for Windows machines. If you have any other operating system (MacOS or linux), you either need to install windows on your computer, or you need to download a virtual machine first and use windows through that.

For the second option, do the following first:

MacOS users:

Step 1: https://www.youtube.com/watch?v=hd0Lbtly41Y
Step 2: https://www.youtube.com/watch?v=J-S_TvtIm5Y

Ubuntu users:

Step 1: https://www.youtube.com/watch?v=Fkp5FJBZLjQ
Step 2: https://www.youtube.com/watch?v=xe076CP1NeI

Windows users: skip to the next page.

MinGW compiler

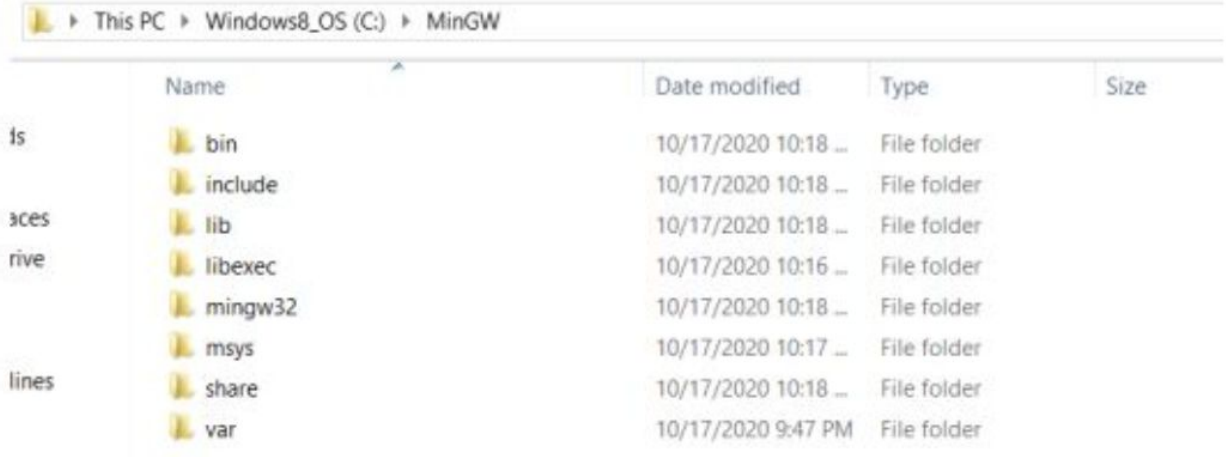
- The Igraphics library is built to run on the mingw compiler, which is a separate compiler from TDM-GCC. Download the compiler from below:

  https://drive.google.com/file/d/1Sxl_Gz3xw7z5cyARiQ2cRu_vLVLno9aS/view?usp=drive_link

  (If you cannot access above link, the MinGW.zip file has also been shared with you)

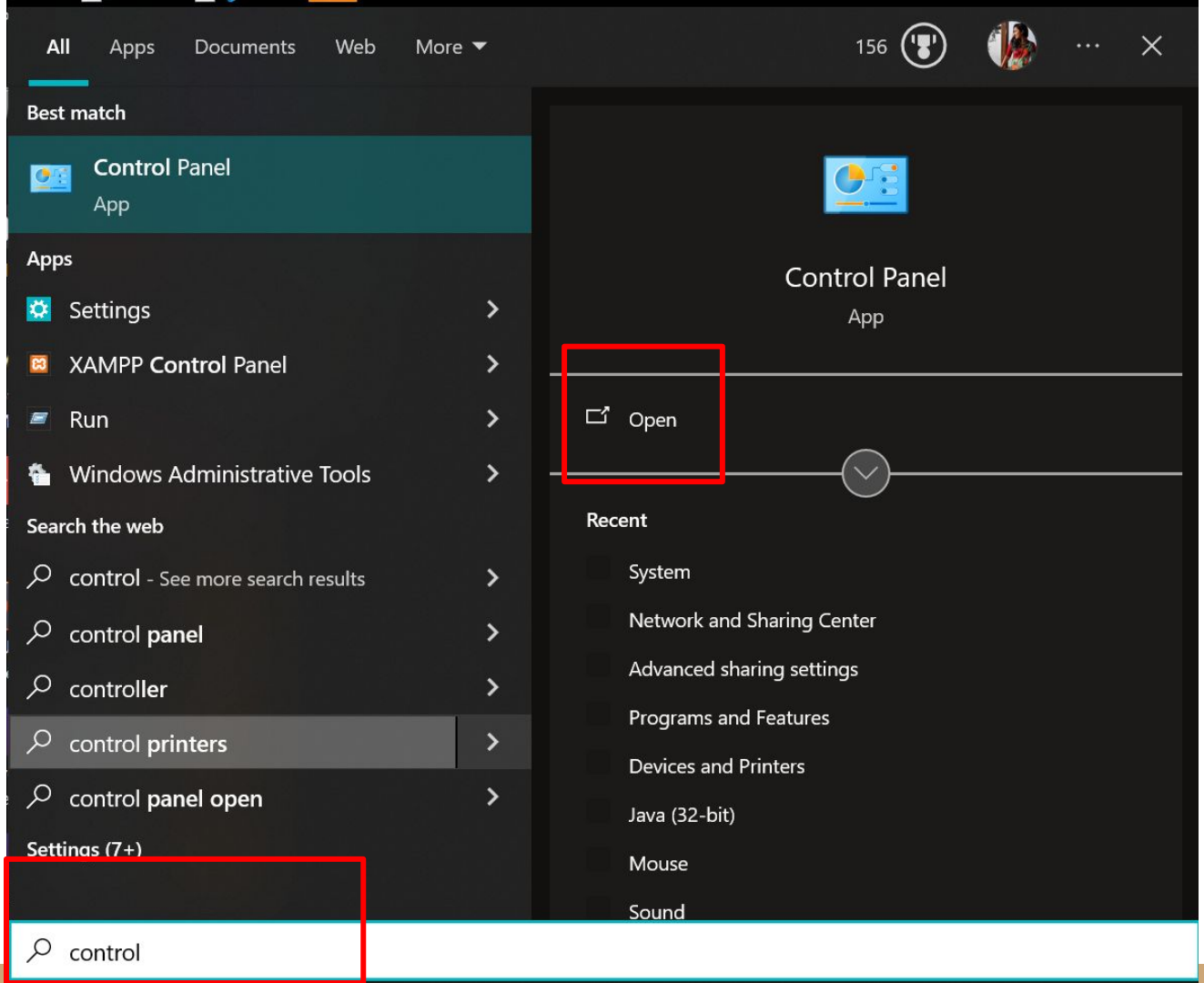
MinGW compiler

- Now move this file in C directory and extract the file in C directory (may require administrative privileges). You should see the following folders in extracted folder (C:/MinGW)



*After extracting, the path should not be C:/MinGW/MinGW, if that happens, rename the **outer** MinGW folder to MinGW2, move the **inner** MinGW folder to C drive, then delete the MinGW2 folder

Now, we have to check if the MinGW compiler is correctly added to the path variable in your computer.


All
Apps
Documents
Web
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Control Panel
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Settings
XAMPP Control Panel
Run
Windows Administrative Tools
Search the web
control - See more search results
control panel
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control printers
control panel open
Settings (7+)
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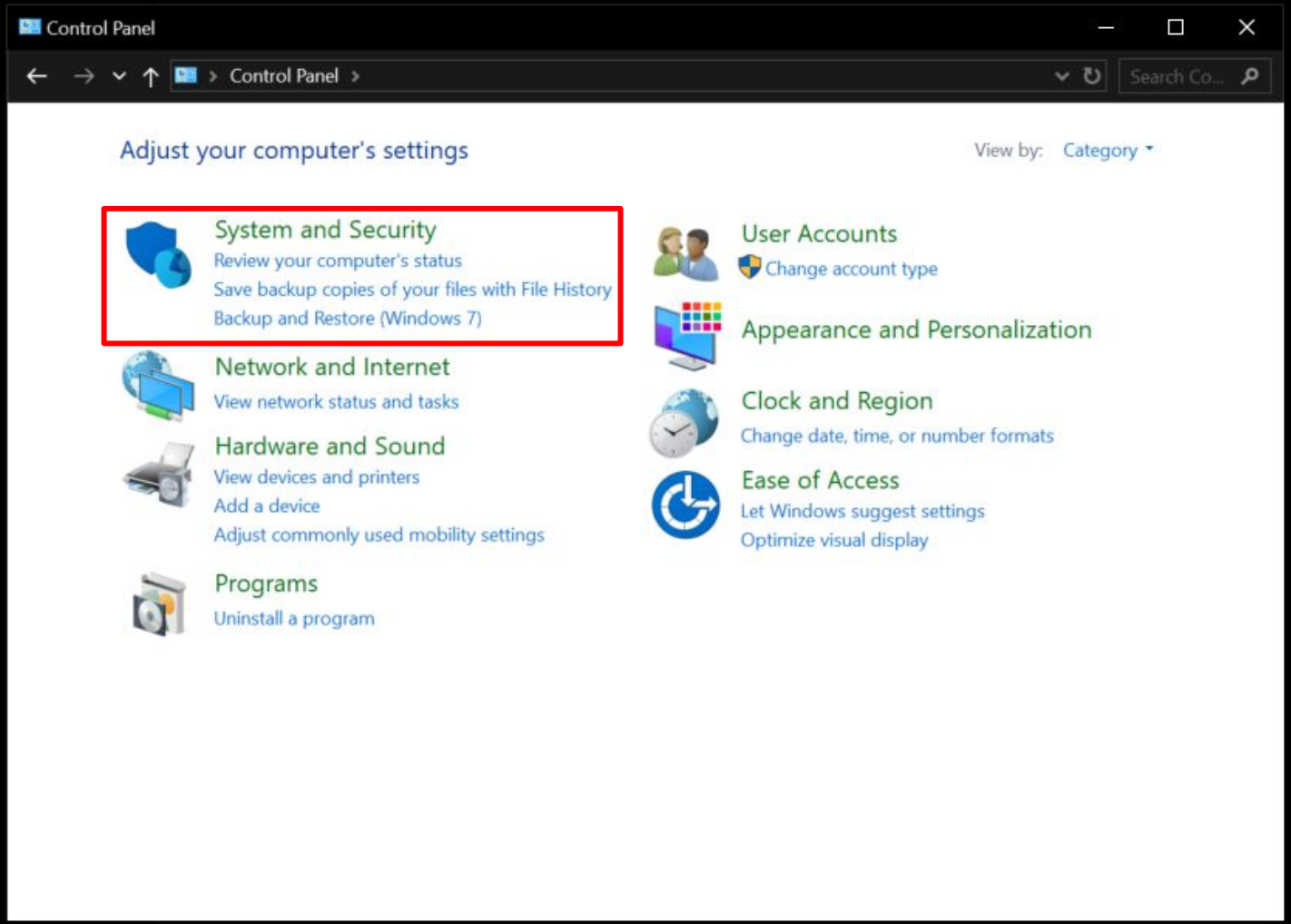
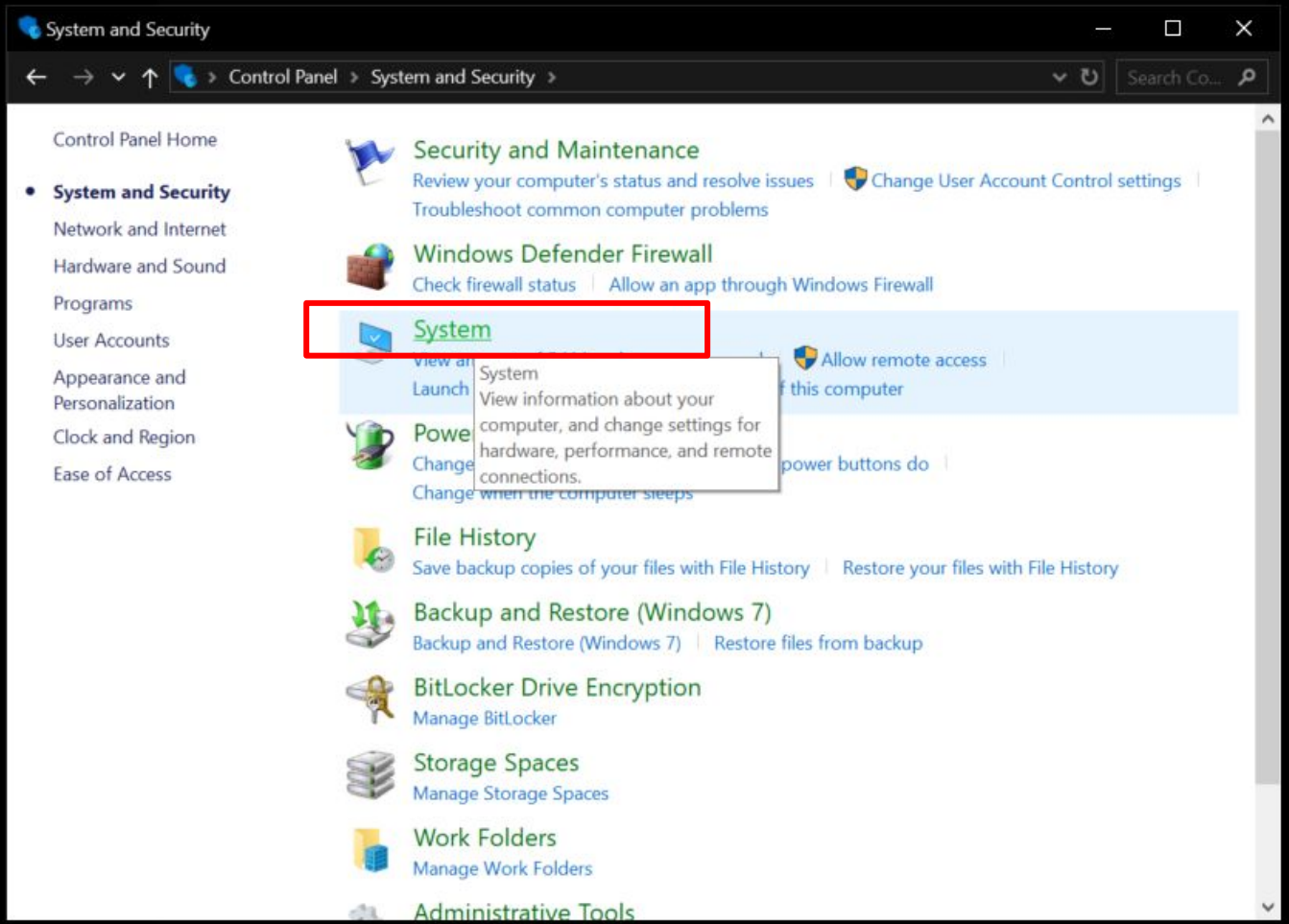
Network and Sharing Center
Advanced sharing settings
Programs and Features
Devices and Printers
Java (32-bit)
Mouse
Sound


Control Panel
Control Panel
Search Co...
Adjust your computer's settings
View by: Category
System and Security
Review your computer's status
Save backup copies of your files with File History
Backup and Restore (Windows 7)
Network and Internet
View network status and tasks
Hardware and Sound
View devices and printers
Add a device
Adjust commonly used mobility settings
Programs
Uninstall a program
User Accounts
Change account type
Appearance and Personalization
Clock and Region
Change date, time, or number formats
Ease of Access
Let Windows suggest settings
Optimize visual display


System and Security
Control Panel › System and Security ›
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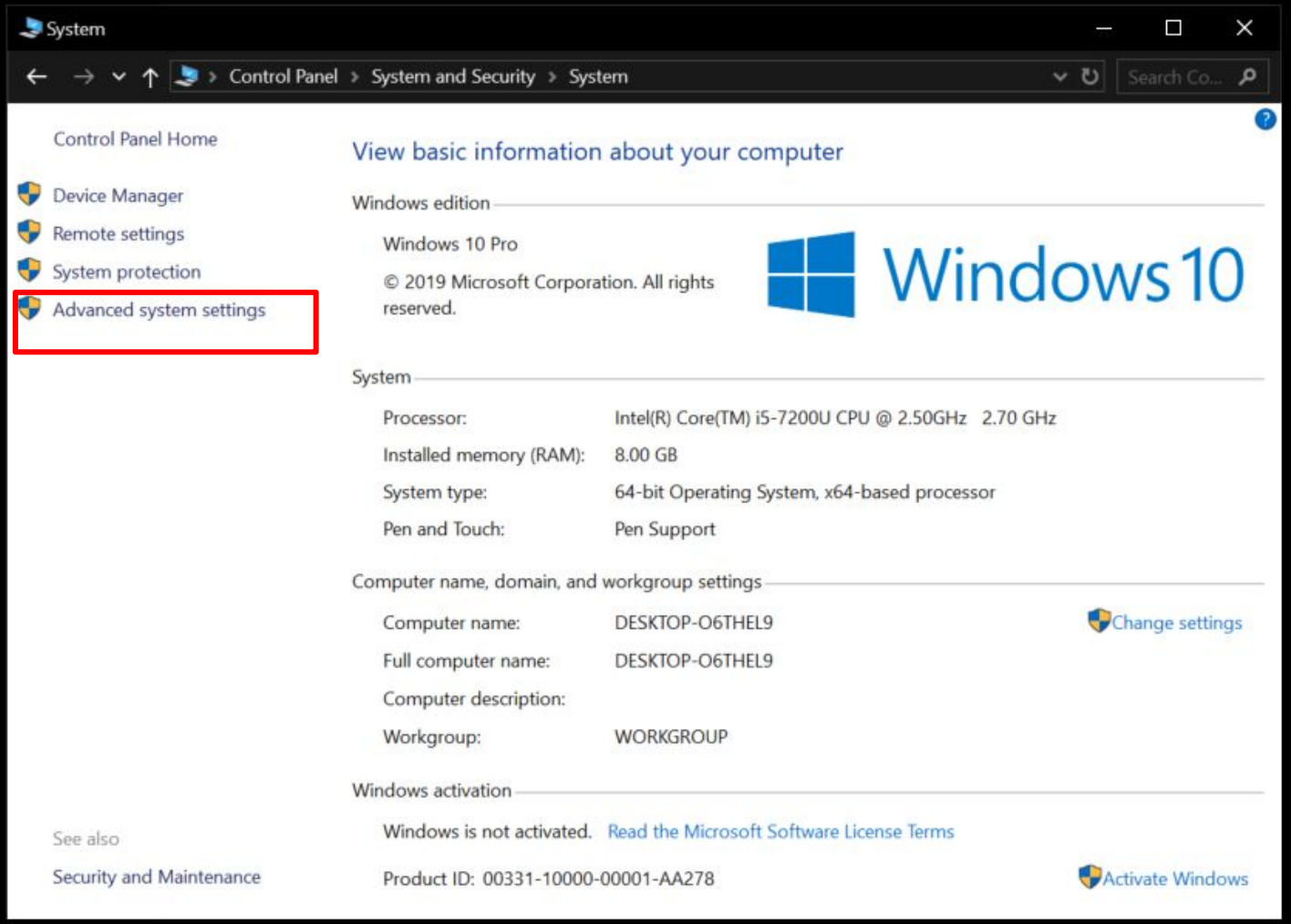
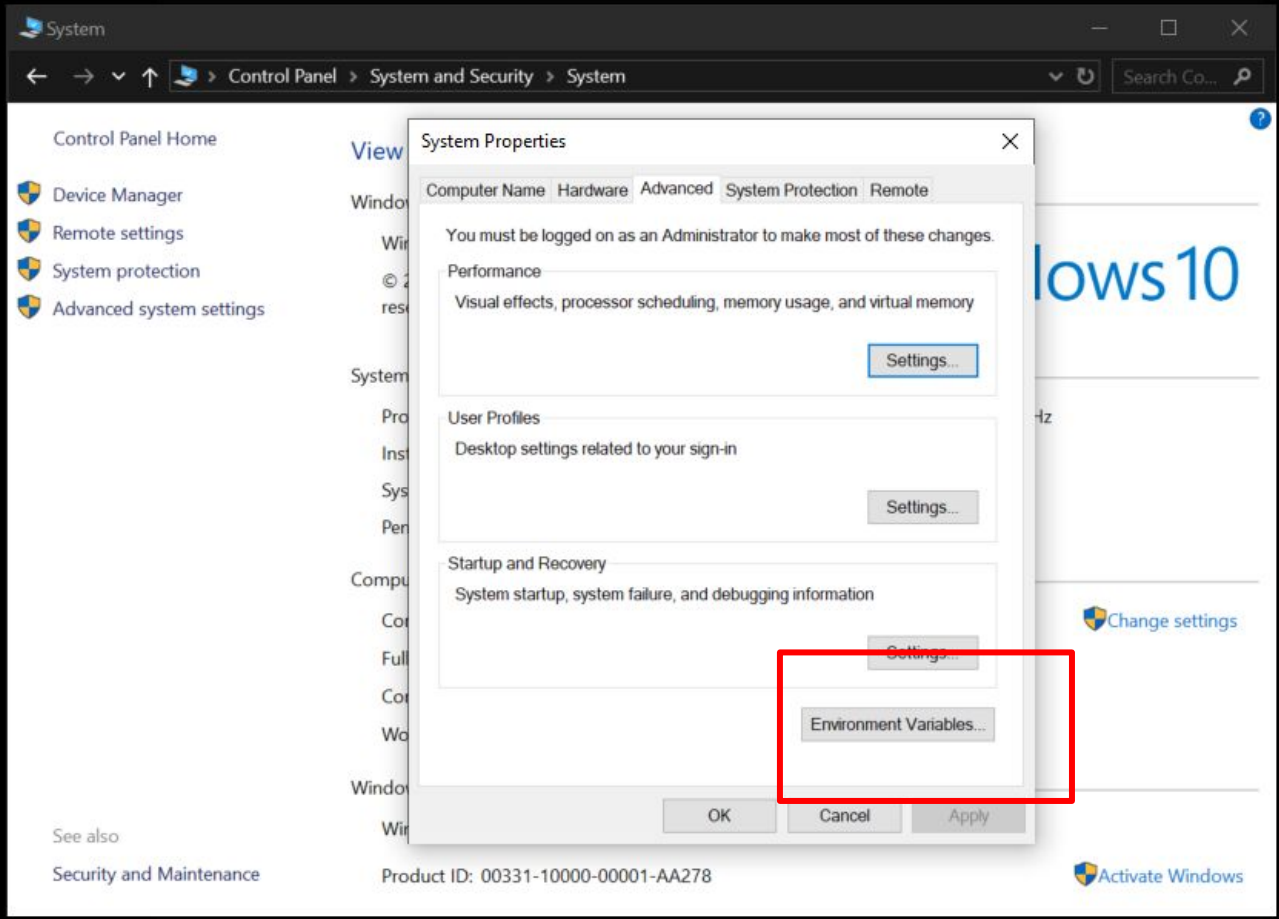
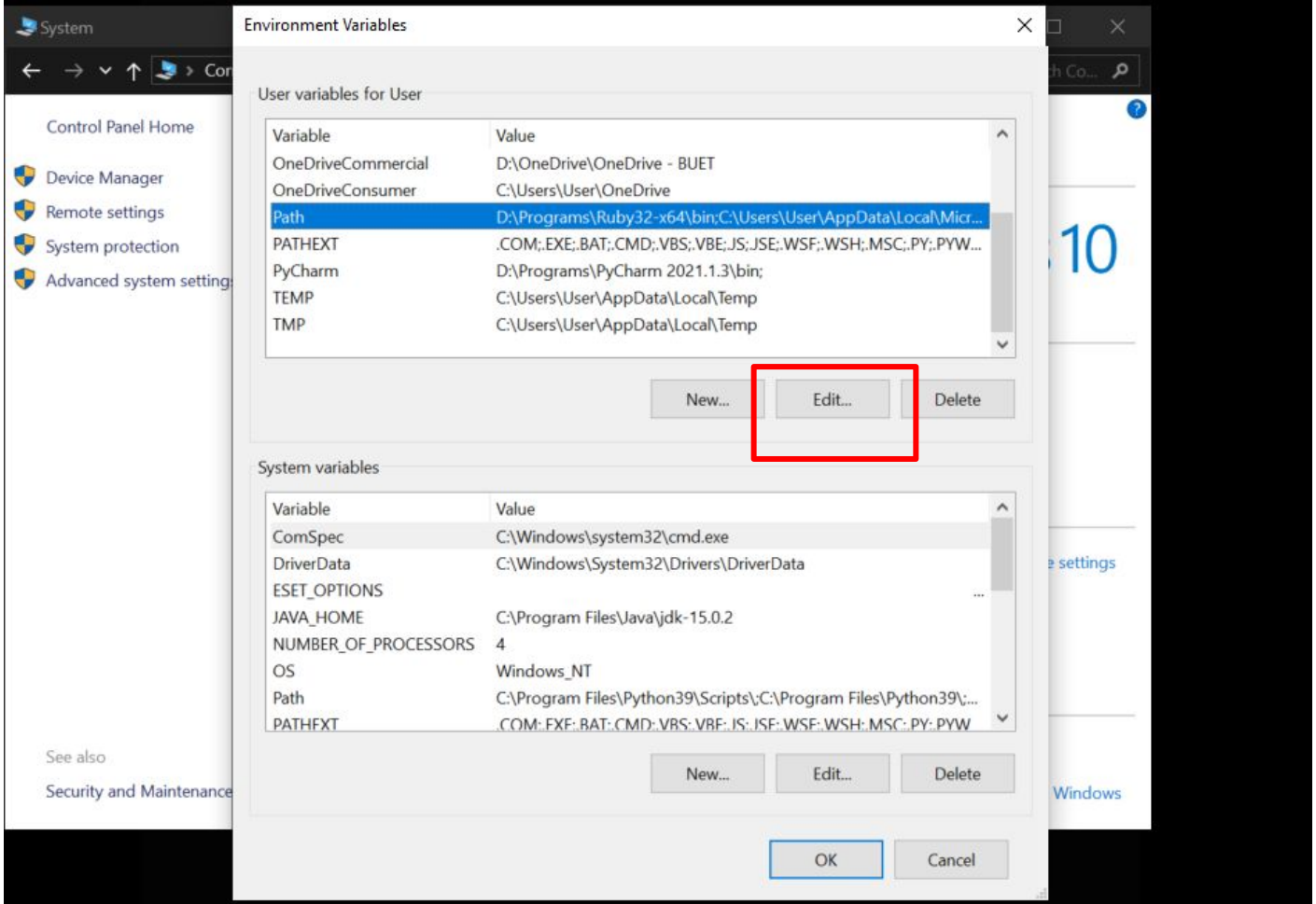
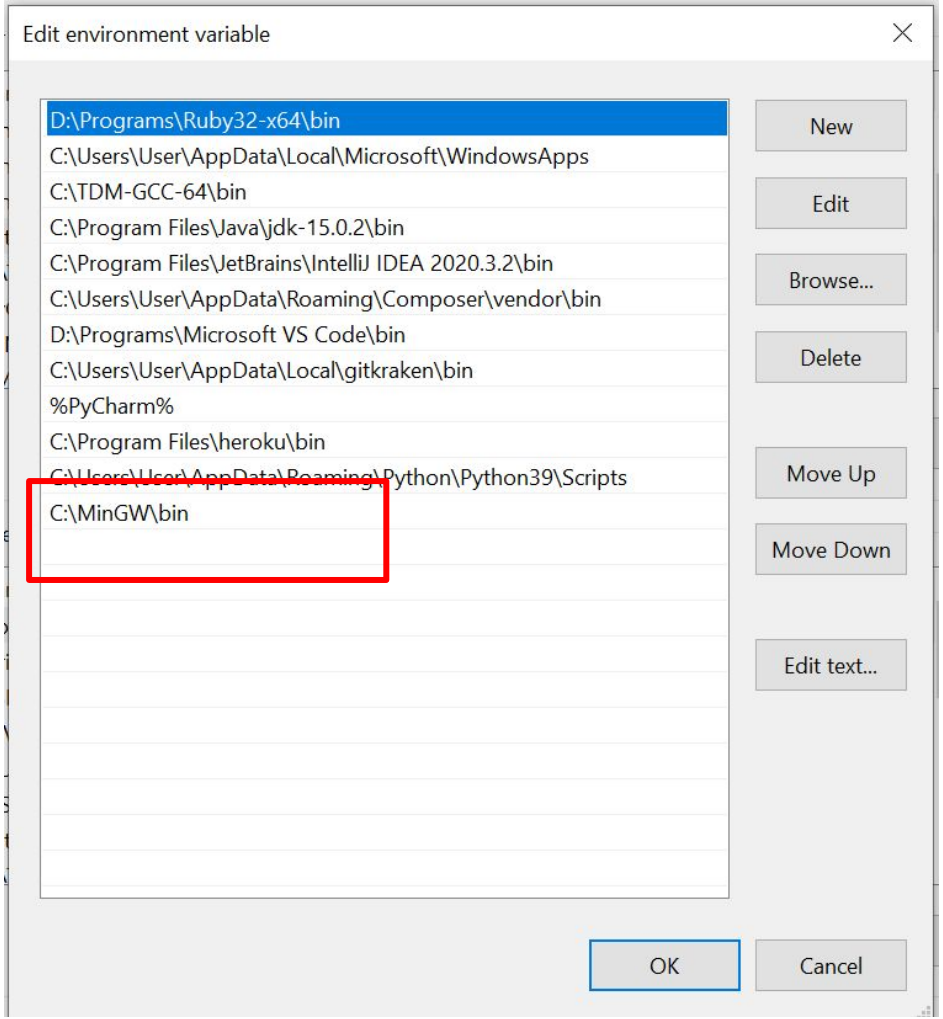
Control Panel Home
System and Security
Network and Internet
Hardware and Sound
Programs
User Accounts
Appearance and Personalization
Clock and Region
Ease of Access
Security and Maintenance
Review your computer's status and resolve issues
Change User Account Control settings
Troubleshoot common computer problems
Windows Defender Firewall
Check firewall status
Allow an app through Windows Firewall
System
Allow remote access
Launch
this computer
System
View information about your computer, and change settings for hardware, performance, and remote connections.
Powe
Change
power buttons do
Change when the computer sleeps
File History
Save backup copies of your files with File History
Restore your files with File History
Backup and Restore (Windows 7)
Backup and Restore (Windows 7)
Restore files from backup
BitLocker Drive Encryption
Manage BitLocker
Storage Spaces
Manage Storage Spaces
Work Folders
Manage Work Folders
Administrative Tools


System
Control Panel › System and Security › System
Search Co...
Control Panel Home
Device Manager
Remote settings
System protection
Advanced system settings
View basic information about your computer
Windows edition
Windows 10 Pro
© 2019 Microsoft Corporation. All rights reserved.
Windows 10
System
Processor: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz 2.70 GHz
Installed memory (RAM): 8.00 GB
System type: 64-bit Operating System, x64-based processor
Pen and Touch: Pen Support
Computer name, domain, and workgroup settings
Computer name: DESKTOP-O6THEL9
Change settings
Full computer name: DESKTOP-O6THEL9
Computer description:
Workgroup: WORKGROUP
Windows activation
Windows is not activated. Read the Microsoft Software License Terms
Product ID: 00331-10000-00001-AA278
Activate Windows
See also
Security and Maintenance


System
Control Panel › System and Security › System
Search Co...
Control Panel Home
Device Manager
Remote settings
System protection
Advanced system settings
See also
Security and Maintenance
System Properties
Computer Name
Hardware
Advanced
System Protection
Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings...
User Profiles
Desktop settings related to your sign-in
Settings...
Startup and Recovery
System startup, system failure, and debugging information
Settings...
Environment Variables...
OK
Cancel
Apply
Change settings
Product ID: 00331-10000-00001-AA278
Activate Windows

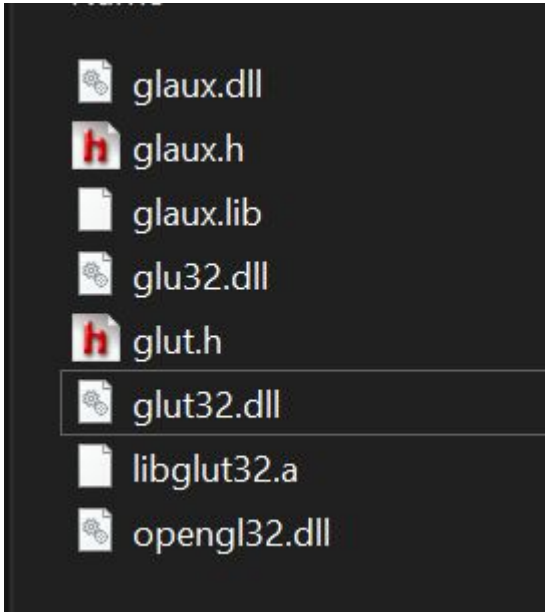

System
Control Panel Home
Device Manager
Remote settings
System protection
Advanced system settings
See also
Security and Maintenance
Environment Variables
User variables for User
Variable
Value
OneDriveCommercial
D:\OneDrive\OneDrive - BUET
OneDriveConsumer
C:\Users\User\OneDrive
Path
D:\Programs\Ruby32-x64\bin;C:\Users\User\AppData\Local\Micr...
PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC;.PY;.PYW...
PyCharm
D:\Programs\PyCharm 2021.1.3\bin;
TEMP
C:\Users\User\AppData\Local\Temp
TMP
C:\Users\User\AppData\Local\Temp
New...
Edit...
Delete
System variables
Variable
Value
ComSpec
C:\Windows\system32\cmd.exe
DriverData
C:\Windows\System32\Drivers\DriverData
ESET_OPTIONS
JAVA_HOME
C:\Program Files\Java\jdk-15.0.2
NUMBER_OF_PROCESSORS
4
OS
Windows_NT
Path
C:\Program Files\Python39\Scripts\;C:\Program Files\Python39\;...
PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC;.PY;.PYW
New...
Edit...
Delete
OK
Cancel

Check if this path is there. If not, add it using the New button



Now, download everything from the folder shared with you in moodle.

You will find these files inside the RequiredFiles folder.
These are some important library files needed to run your Igraphics project.

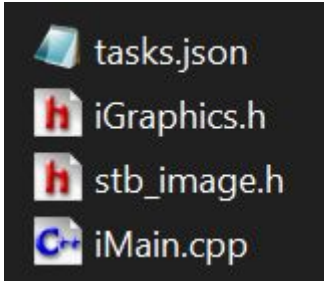


- Copy glaux.h and glut.h to **C:\MinGW\include\GL** (If the GL folder does not exist, create it first)

- Copy libglut32.a and glaux.lib to **C:\MinGW\lib**

- Copy glu32.dll, opengl32.dll, glaux.dll and glut32.dll to **C:\Windows\System32**

Setting Up Igraphics in VScode



- Create a new folder. This will be your project folder.
- Put the iGraphics.h, iMain.cpp, stb_image.h and glut32.dll in the project folder
- In the project folder, create a new folder named “.vscode”
- In the “.vscode” folder, put the tasks.json file

Setting Up Igraphics in VScode

- Open the project folder using VS Code:
  - Open VS Code
  - File -> Open Folder -> Navigate to project folder -> Select Folder

- VS Code should be set up now for building and running the code.
- Now to build and run your code:
  - Open the iMain.cpp file
  - Menu bar -> Terminal -> Run Build Task...
  - Or press Ctrl+Shift+B

- You should see an iMain.exe being built in the project folder without any build errors, and afterwards the program should run

- If you run into any problems, refer to the **iGraphics Setup Guide for VSCode.pdf**

Thanks to Mustafa Muhaimin