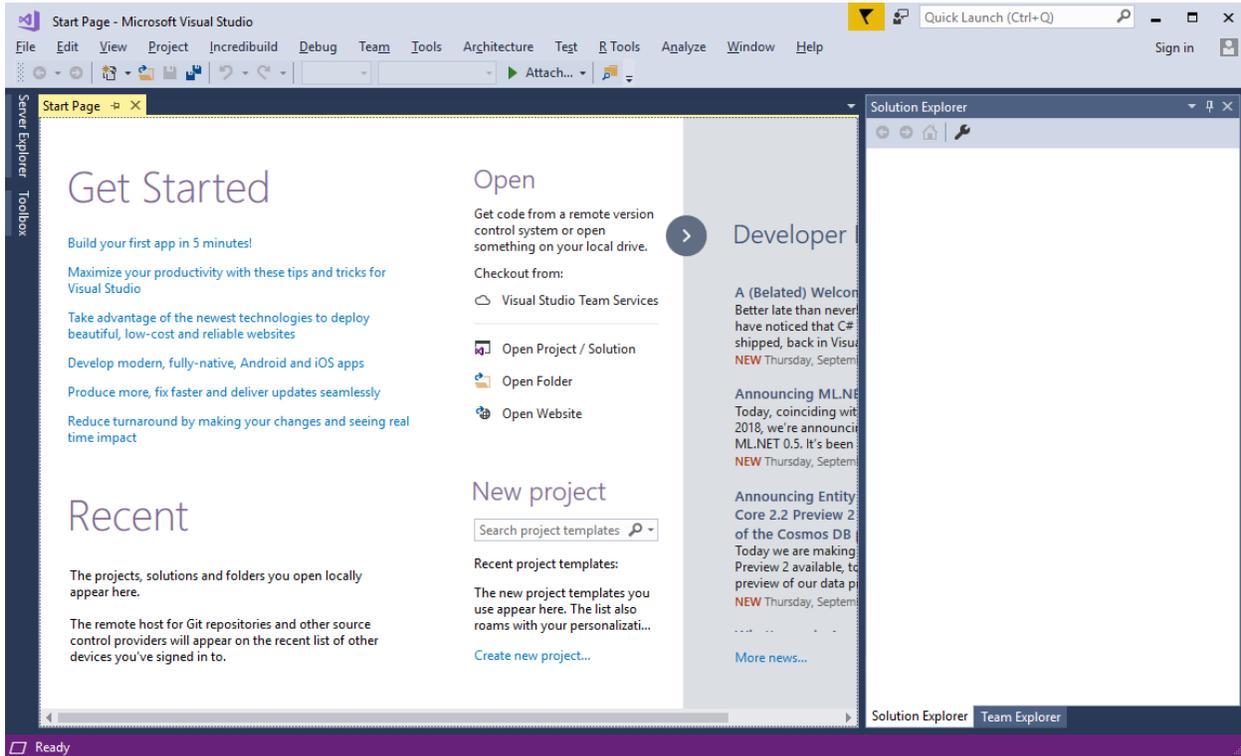
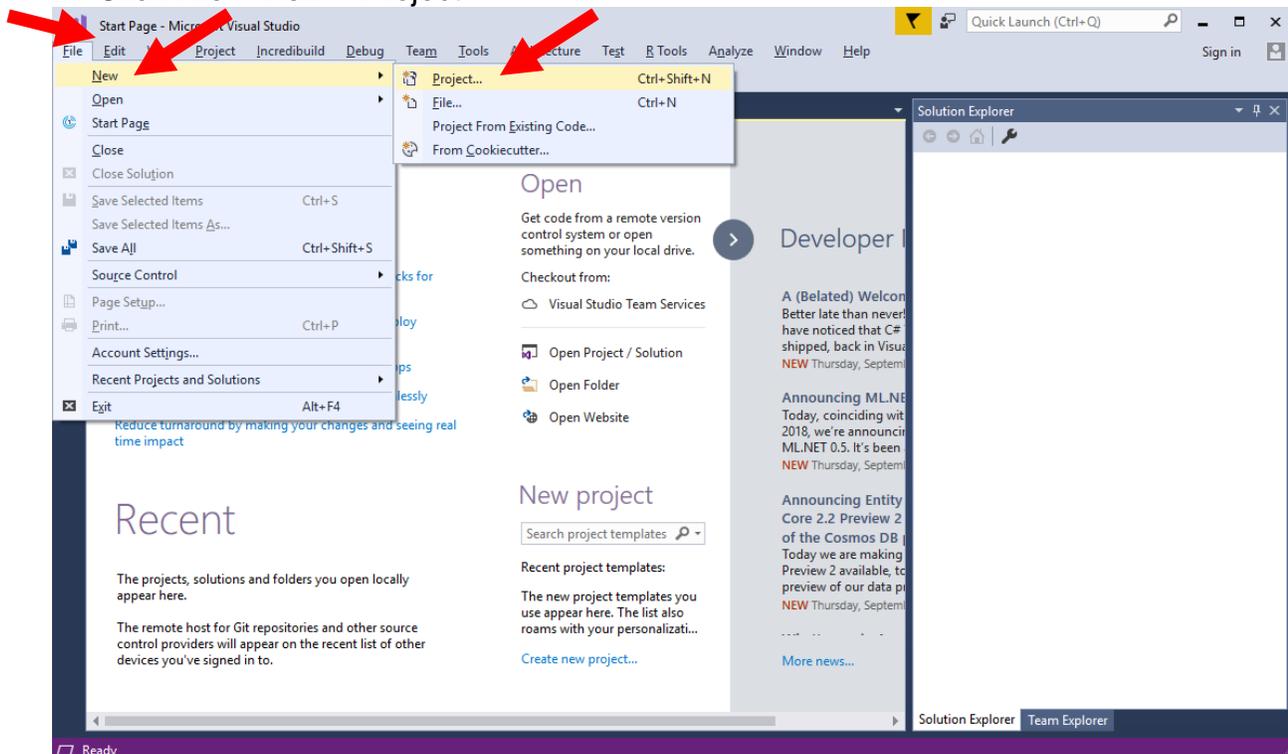


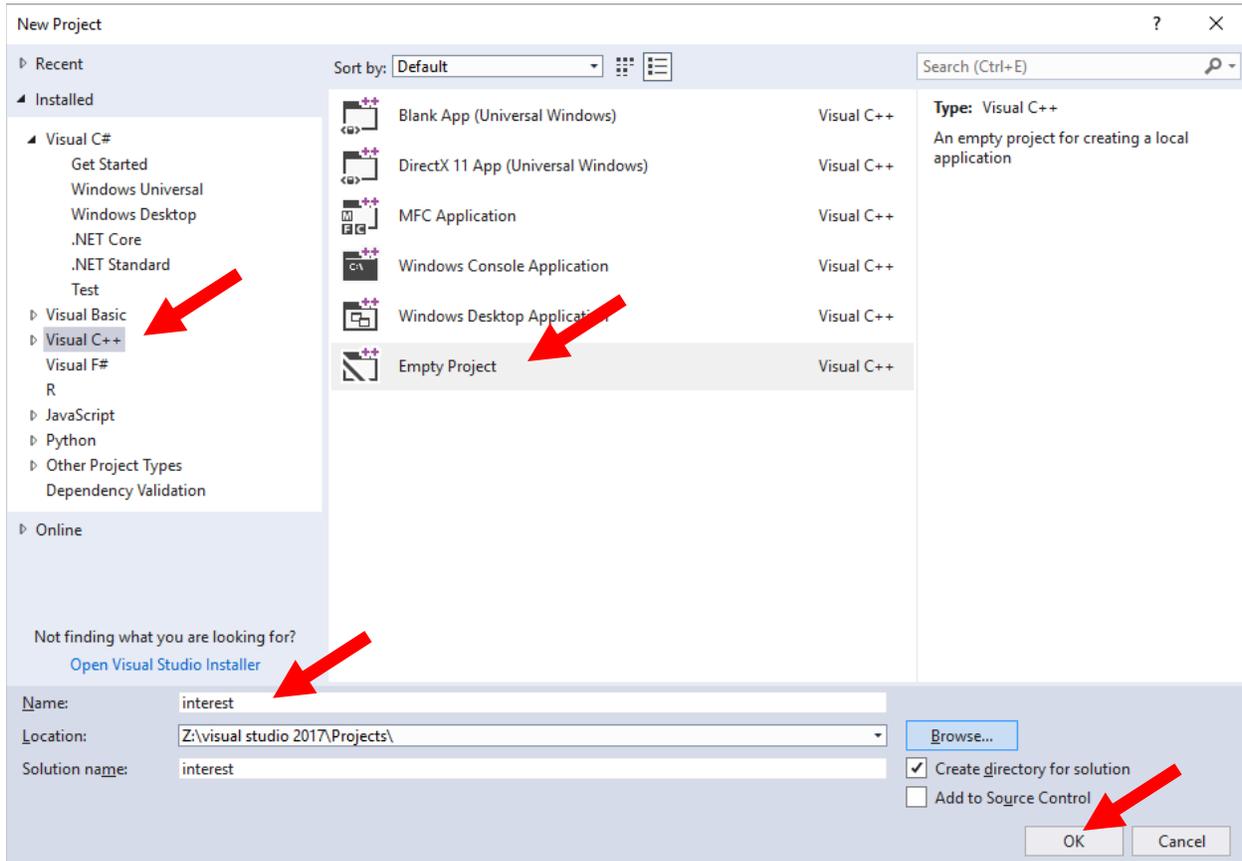
1. Start Visual Studio 2017 by clicking on the desktop icon. If you get a dialog box asking if you want to log into Microsoft, click "Not now, maybe later". Choose whatever theme you want (default is suggested) and then click "Start Visual Studio". You should see a screen as follows:



2. Click File > New > Project

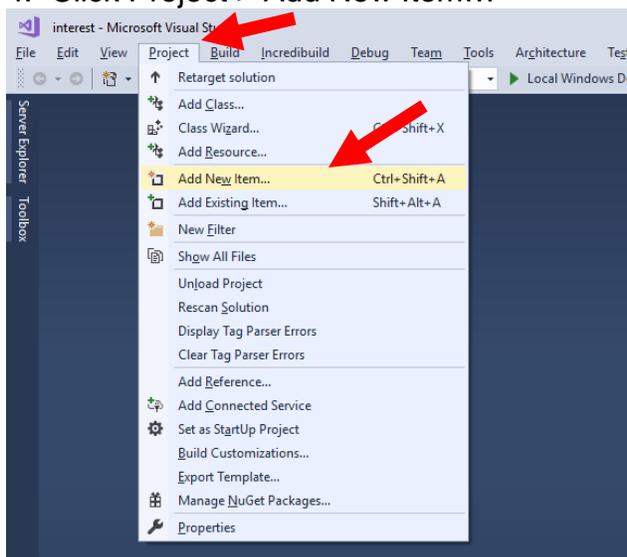


3. In the "New Project" dialog box, under "Installed", click "Visual C++", then select (click) "Empty Project. Under "Name:" type in the name of your project (interest for the first program). Insure "Location:" contains Z:\visual studio 2017\Projects. If it contains something else, you should change it. The "Solution name:" should be set the same as "Name:". Insure that "Create directory for solution" is checked. When all is complete, click OK.

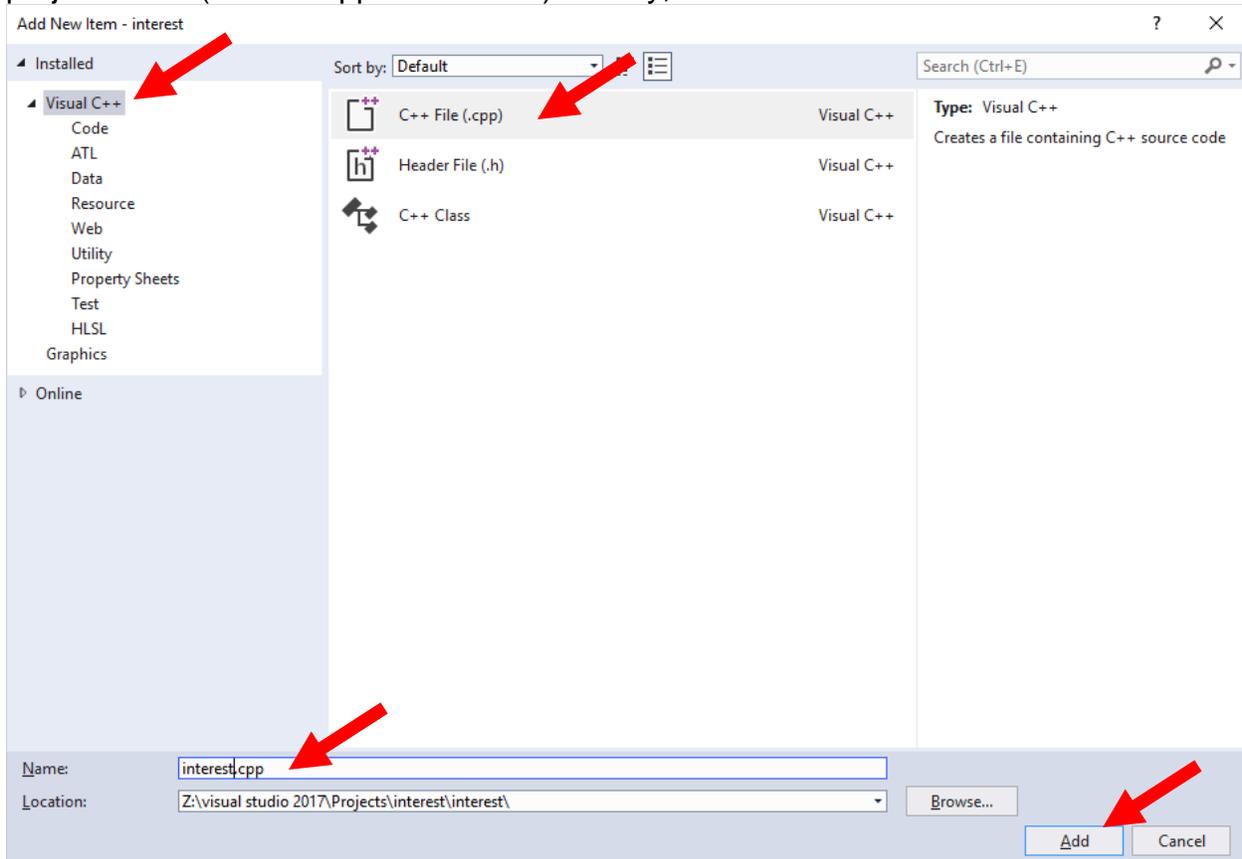


If you get a dialog box along the lines of "The Project location is not fully trusted by the CLR runtime...", just click OK.

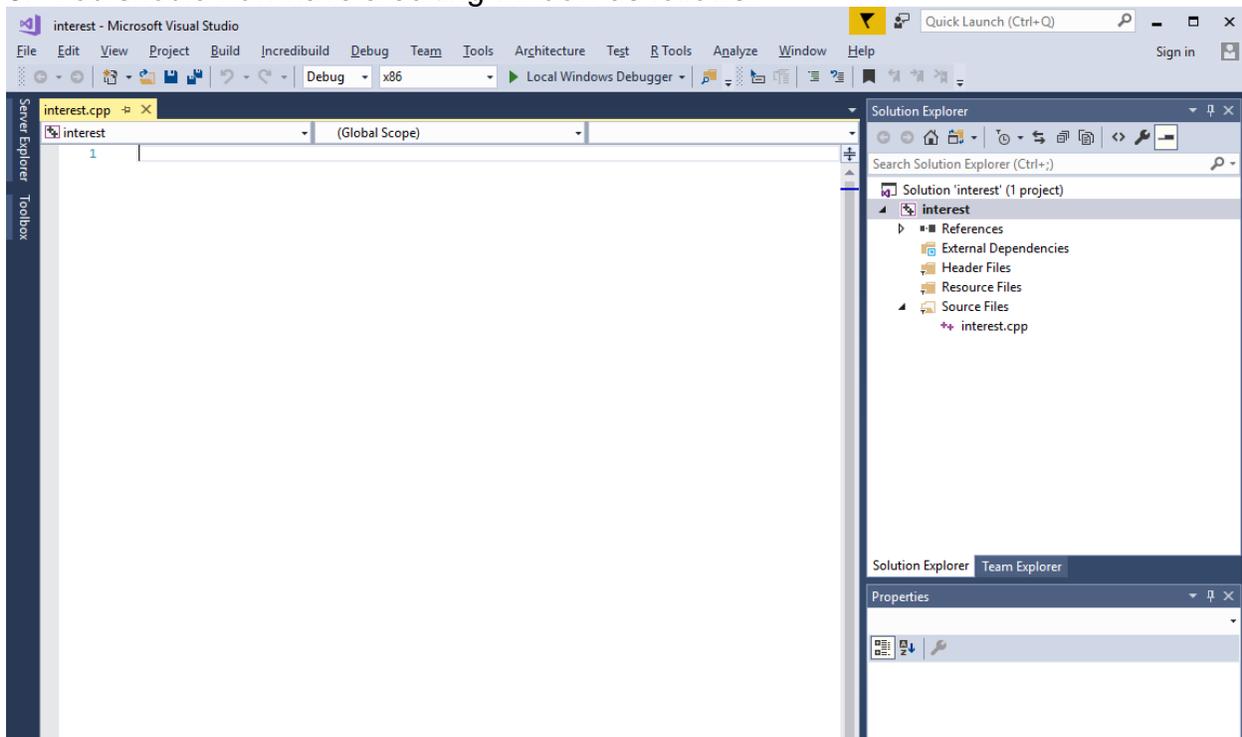
4. Click Project > Add New Item...



5. Within the "Add New Item" dialog box, insure "Visual C++" and "C++ File (.cpp)" are highlighted (click on them). Change the name of the file from Source1.cpp to match the project name (interest.cpp in this case). Lastly, click Add.



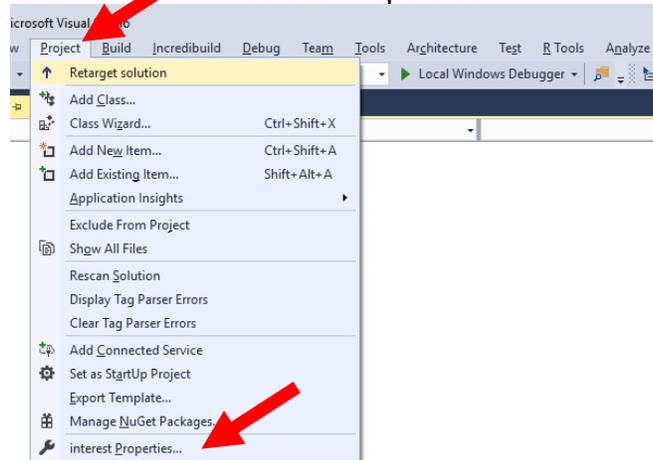
6. You should now have a editing window as follows:



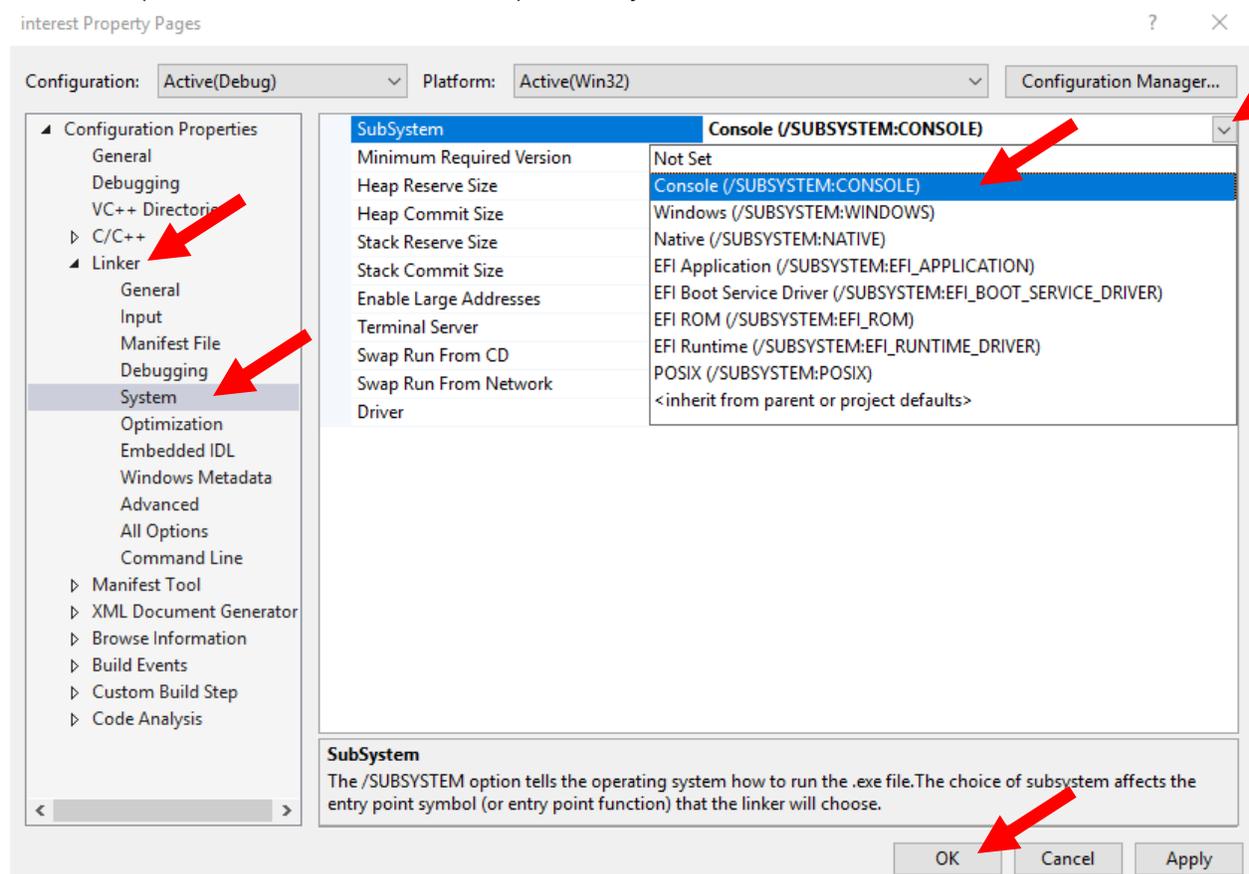
This is the "work" screen where you will enter your program (note the tab with interest.cpp). Type in the program shown on the next page. You are required to both answer the questions, and include the certification statement.

6A. This may be resolved shortly, and you may not need to do this. Your instructor will give you the latest details.

Click **Project > interest Properties**.



In the interest Property Pages, expand Linker (by clicking on the arrow to the left), and then select system. At the top of the system box, click the drop down arrow, and select Console (/SUBSYSTEM:CONSOLE). Finally, click OK.



7. Enter the program shown below:

The image displays two screenshots of Microsoft Visual Studio, showing the development of a C++ program named `interest.cpp`.

Top Screenshot: The code editor shows the following code:

```
1 // You must include on of two certifications:
2 // #1 - I, <state your name>, certify that this is my own work
3 // and I have not collaborated with anyone else.
4 // OR
5 // #2 - I, <state your name>, worked with <person 1>, <person 2>,
6 // ..., <person n>, but still developed the details of my
7 // own code, and certify the code is substantially my
8 // own work.
9
10 // QUESTIONS TO ANSWER:
11 // 1. What is your name?
12 // 2. How would you spell your name phonetically?
13 // 3. If you have a nickname, what is it?
14 // 4. What (if any) programming courses did you take in high
15 // school or elsewhere?
16 // 5. What programming languages do you know (an rate how
17 // well you know each one)?
18 // 6. Where did you go to high school?
19 // 7. What do you hope to get out of this course
20
21 #define _CRT_SECURE_NO_WARNINGS
22 #include <stdio.h>
```

Bottom Screenshot: The code editor shows the completed code:

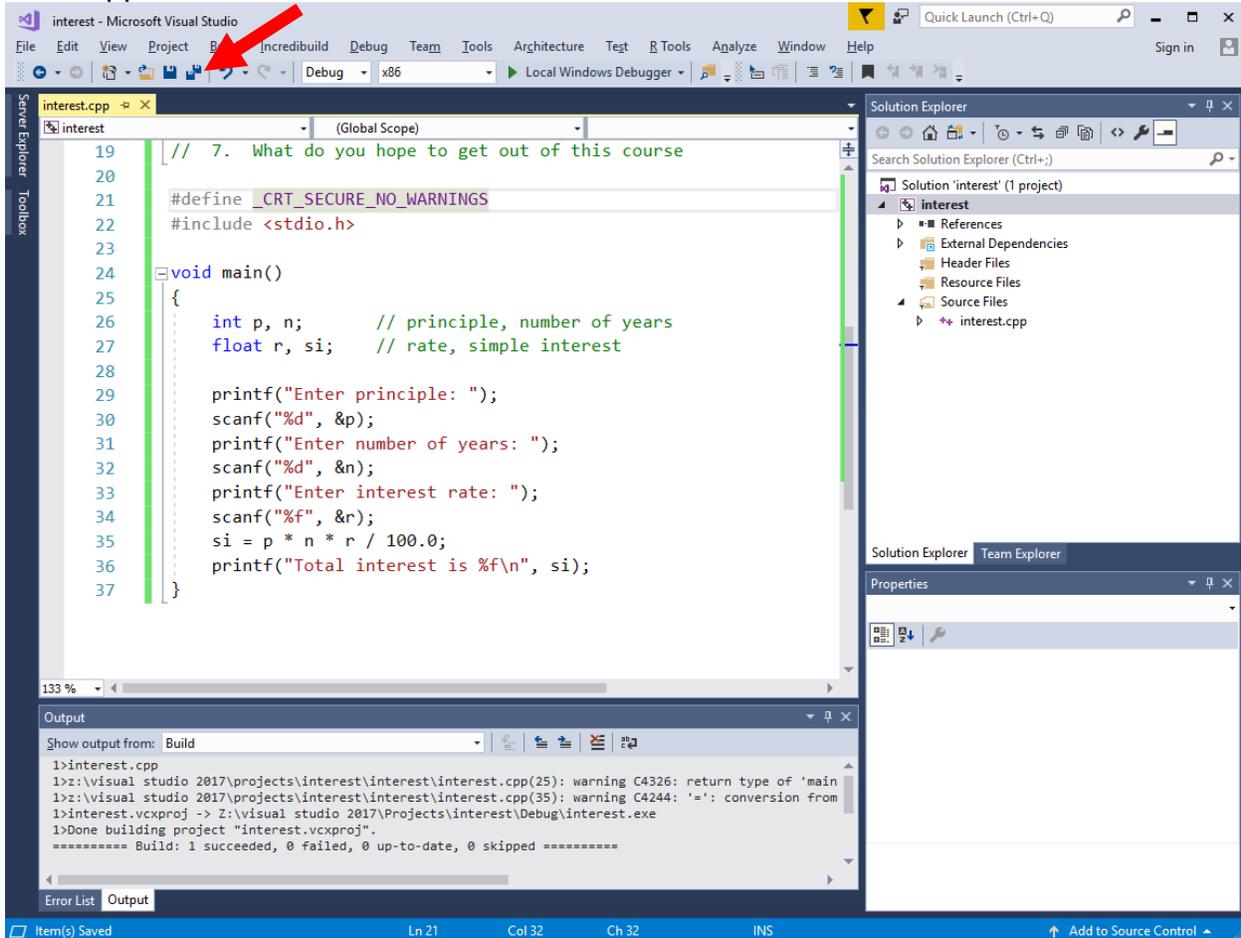
```
19 // 7. What do you hope to get out of this course
20
21 #define _CRT_SECURE_NO_WARNINGS
22 #include <stdio.h>
23
24 void main()
25 {
26     int p, n; // principle, number of years
27     float r, si; // rate, simple interest
28
29     printf("Enter principle: ");
30     scanf("%d", &p);
31     printf("Enter number of years: ");
32     scanf("%d", &n);
33     printf("Enter interest rate: ");
34     scanf("%f", &r);
35     si = p * n * r / 100.0;
36     printf("Total interest is %f\n", si);
37 }
```

The Output window shows the following build output:

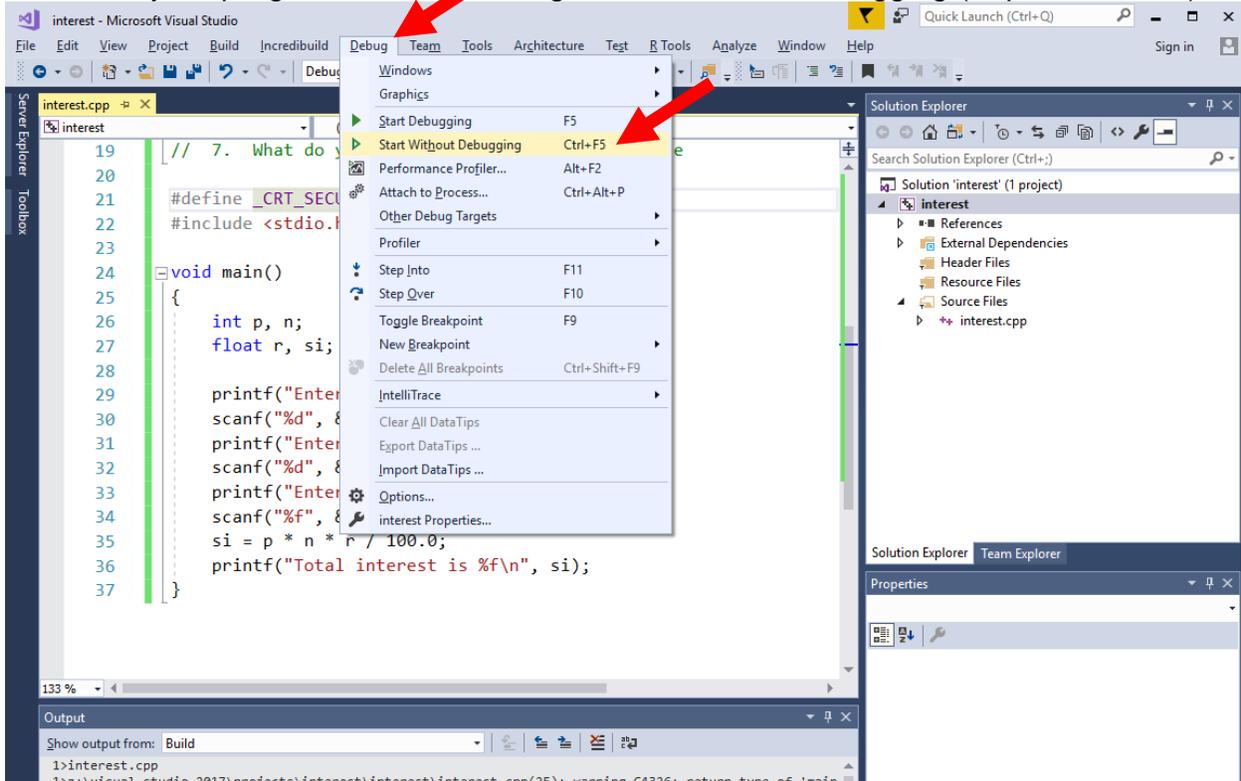
```
1>interest.cpp
1>z:\visual_studio_2017\projects\interest\interest\interest.cpp(25): warning C4326: return type of 'main'
1>z:\visual_studio_2017\projects\interest\interest\interest.cpp(35): warning C4244: '=': conversion from
1>interest.vcxproj -> Z:\visual_studio_2017\Projects\interest\Debug\interest.exe
1>Done building project "interest.vcxproj".
***** Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped *****
```

There are several comments/questions that are part of this lab, and I am expecting you to answer. Note the "*" in the tab after the filename `interest.cpp` indicates that the file has not been saved.

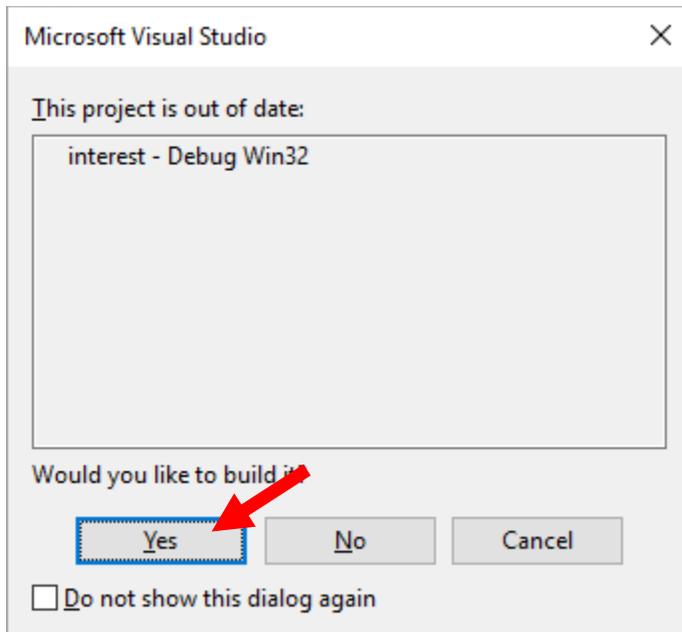
8. To save your program, click on the “save all” icon (or click File > Save all). Note the “*” disappears.



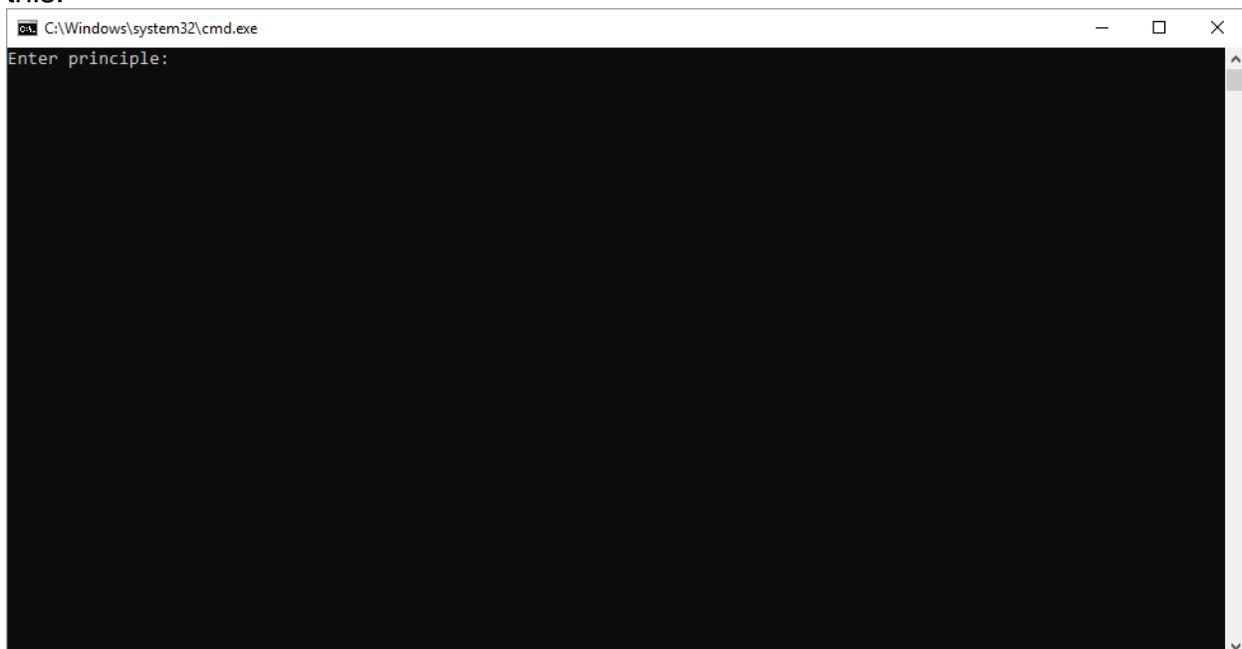
9. To run your program, click on Debug > Start Without Debugging (or press Ctrl/F5).



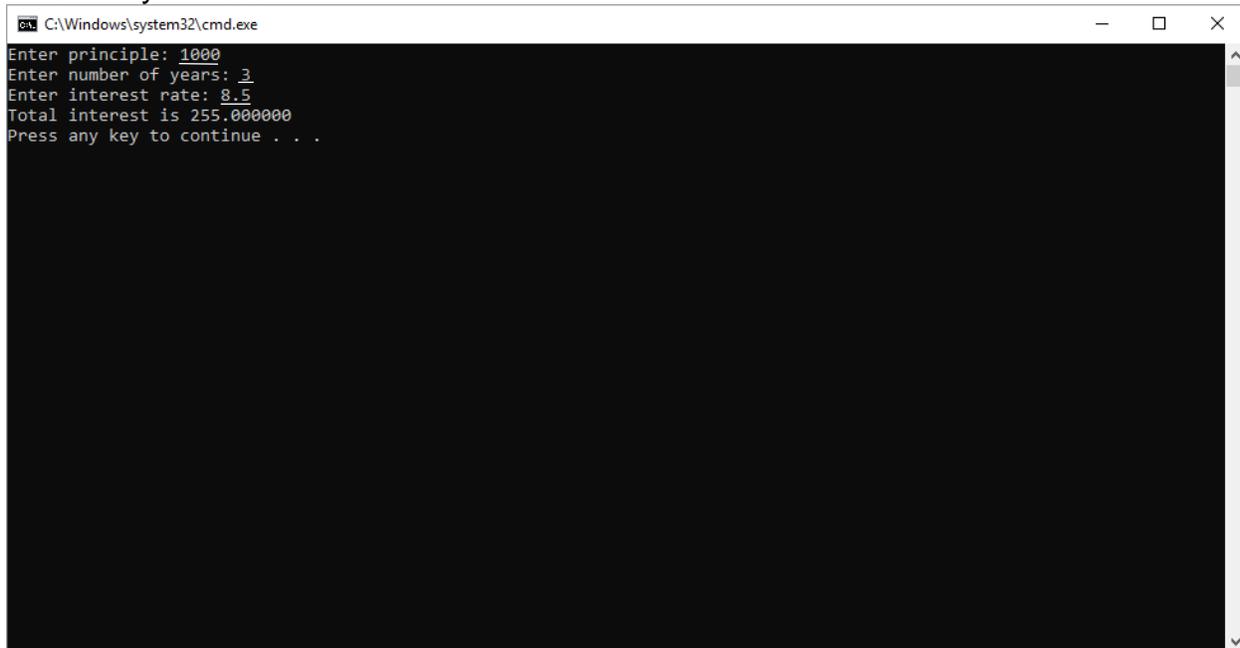
10. If the program has not been run previously, you will see a box like this. Click Yes. Optionally, you may click the Do not show this dialog again to avoid seeing this in the future.



11. If you have entered the program correctly without any errors, you will see
===== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped =====
In the Output windows, and a command prompt window will open that shows the result of your program running. In the case of the sample interest.cpp program, it will look like this:



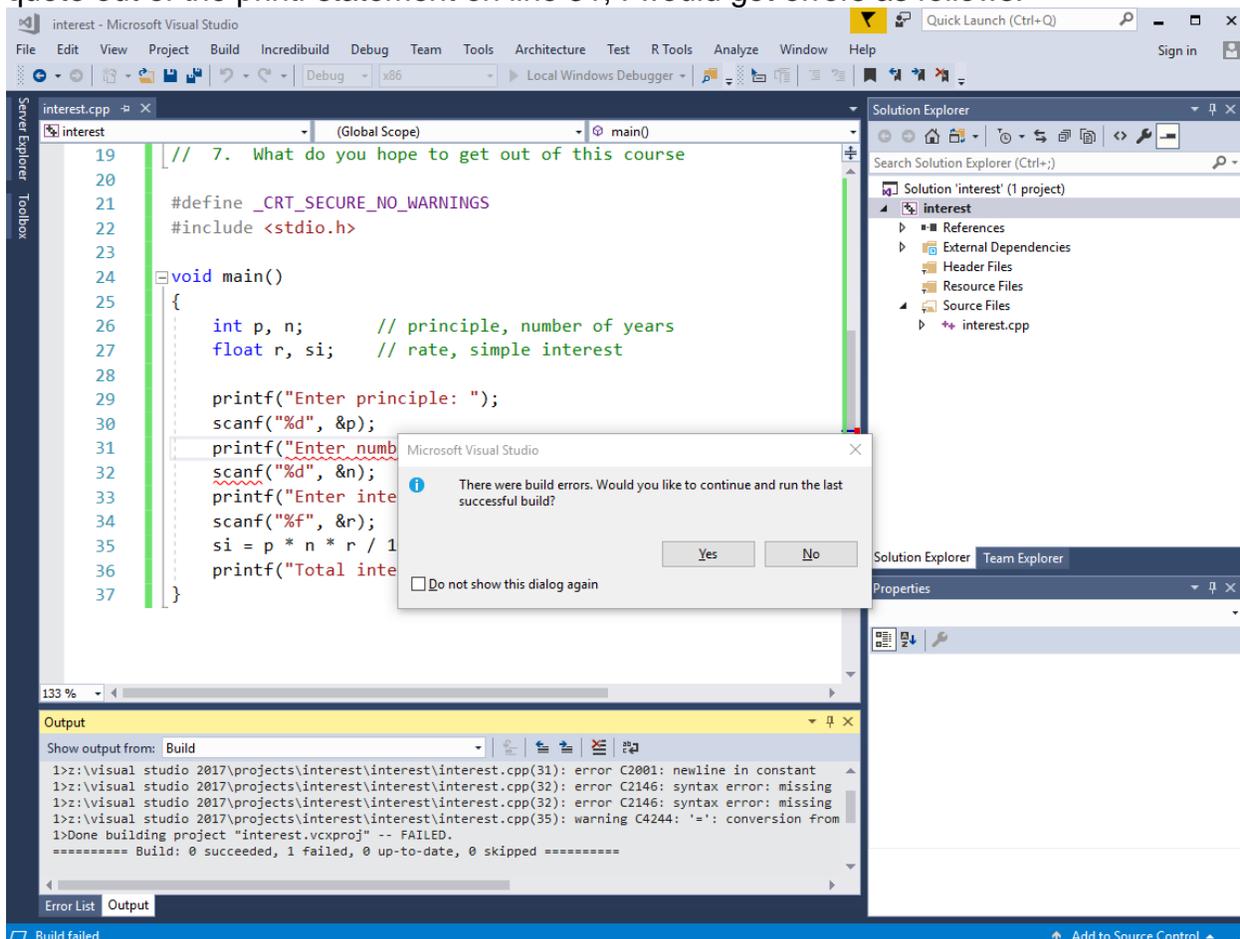
12. Enter a set of data, and look at the result. The underlined info below is what is entered by the user:



```
C:\Windows\system32\cmd.exe
Enter principle: 1000
Enter number of years: 3
Enter interest rate: 8.5
Total interest is 255.000000
Press any key to continue . . .
```

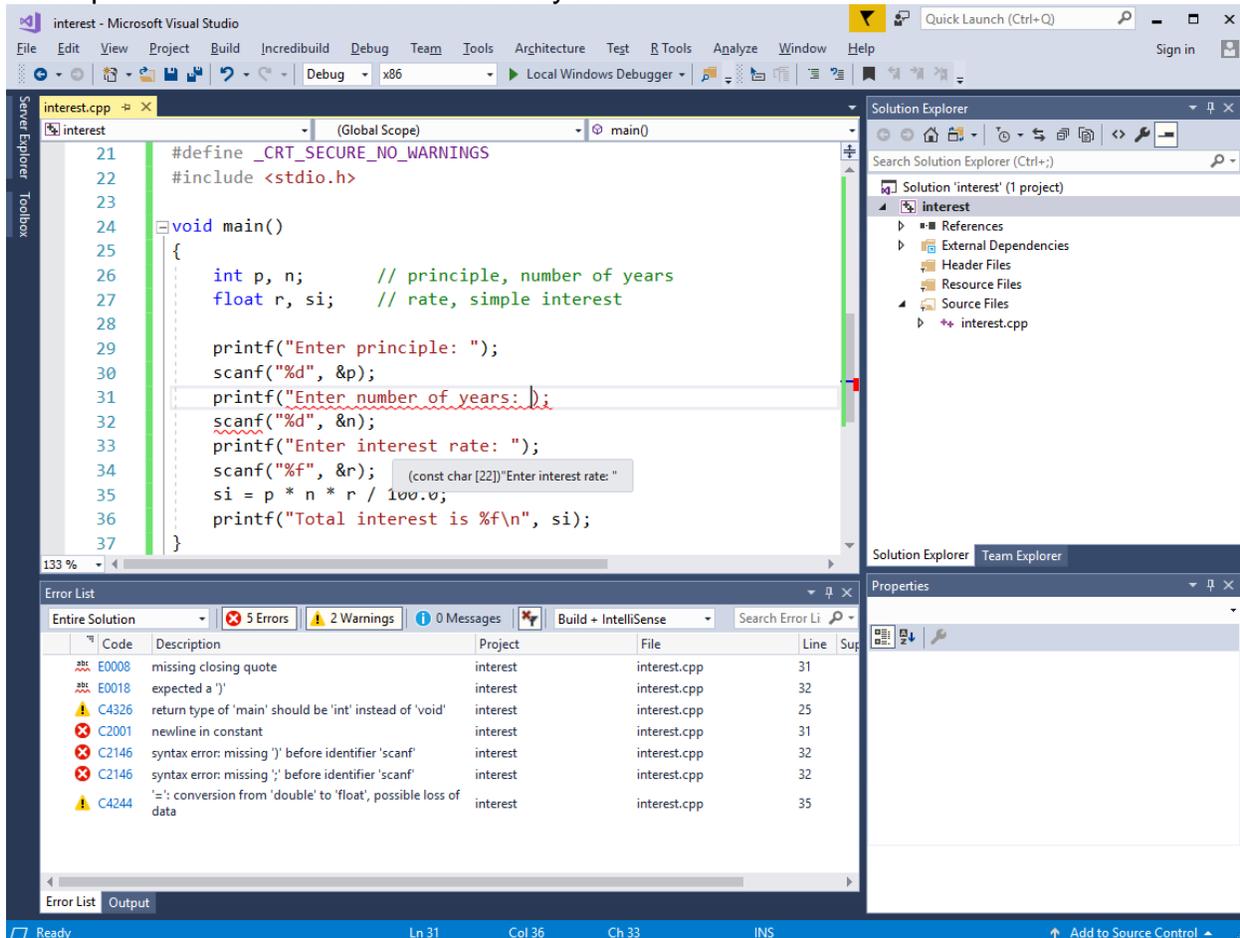
Press any key to close this window.

13. DEALING WITH PROBLEMS. It is possible (likely) that your program will not run the first time, because of a syntax or other error. For example if I were to leave the closing quote out of the printf statement on line 31, I would get errors as follows:



In general, you should click “No” to this message box, unless you have a very good reason for continuing.

14. Click on the “Error List” tab at the bottom left of the screen. This will give a better description of the errors and where they are.

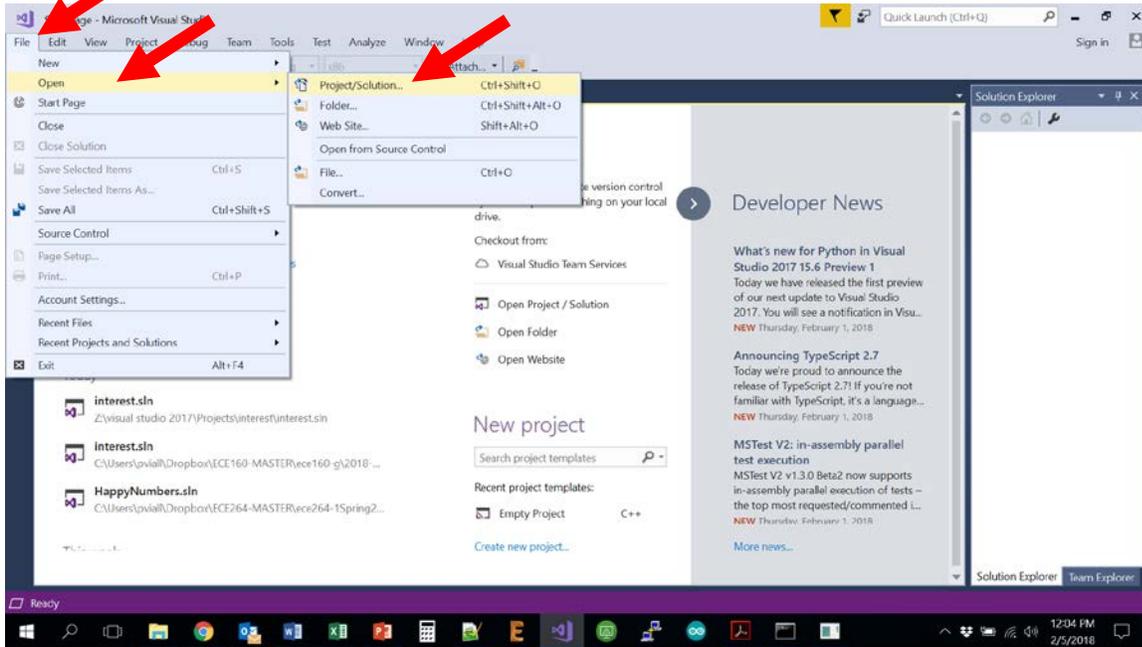


There are three types of errors:

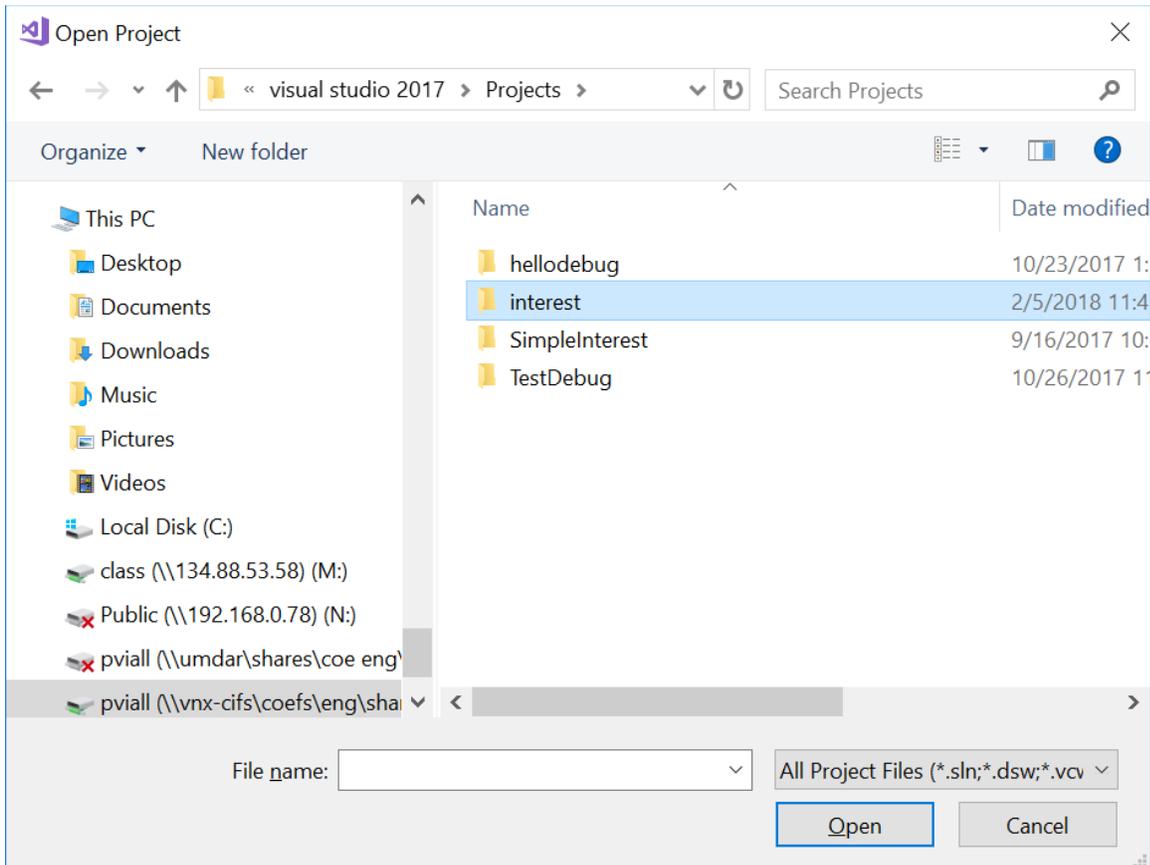
1. Intellisense errors. These are errors which produce a wavy red underline while you are typing. The first two errors in this list are of that type. They are errors that should be fixed before running the program.
2. Syntax errors. Errors 4, 5, and 6 in the list are syntax errors. They break the rules of the language. A program will not compile with syntax errors.
3. Warning errors. Errors 3 and 7 are warnings. You should at least understand the warnings, and be confident that they will not cause a problem. The two warning errors here may be ignored.

Oftentimes a single mistake may cause dozens or even hundreds of errors. In this case putting a closing quote after “years:” fixes the problems. Fix any errors and try compiling again.

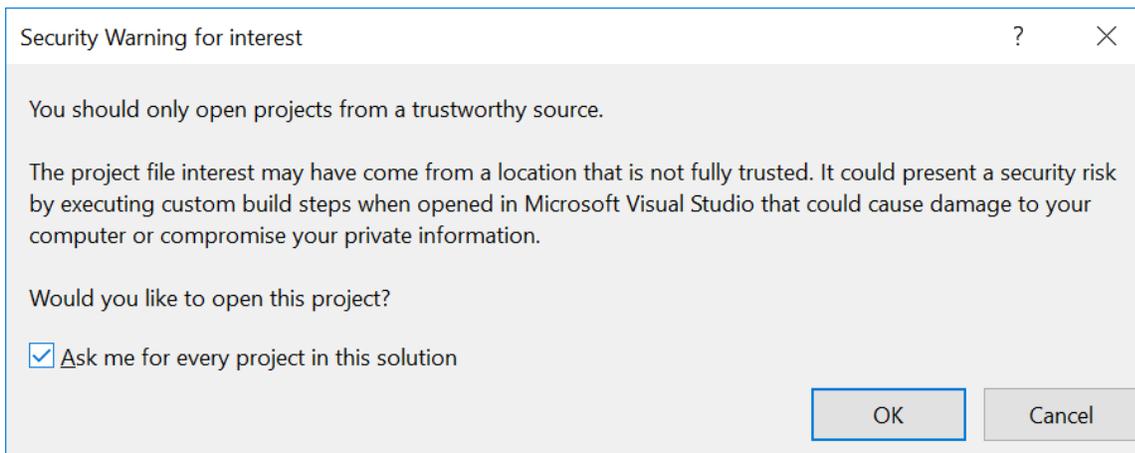
OPENING AN EXISTING PROJECT



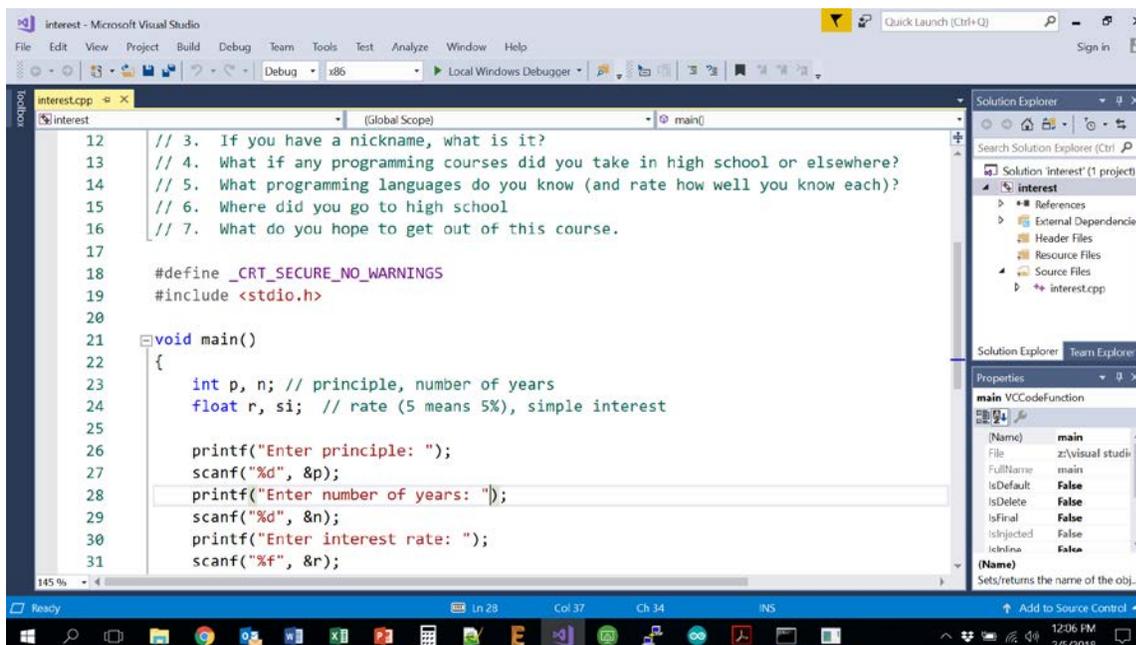
1. Click File / Open / Project/Solution.



2. If needed drill down to Z:\, Visual Studio 2017, Projects, interest. Click on interest.sln (NOT the .cpp file). Click Open.



You may get a warning dialog. As long as you are opening it from your M:, U:, or Z: drive (and you are the one who created it), you can click OK.



4. The project will load, and should be in the same state as when it was last saved.

SUBMITTING A PROJECT:

1. Unless otherwise told, you should submit only the .cpp file (or .txt file). For this project, run Windows explorer, and drill down to Z:\Visual Studio 2017\projects\interest\interest.
2. Right click on the interest.cpp file, and select, "Copy"
3. Drill down to your M: drive folder. If your user name is jkirk, the folder would be M:\ECE-160\jkirk. Once in this folder, right click and select paste.
4. You may use the "CheckSubmit.exe" program found in M:\ECE-160\public to check the submission. Double click on the file name, fill in your username and select the assignment you wish to check.