Frequently Encountered Errors

* error CS0246: The type or namespace name *'name'* could not be found (are you missing a using directive or an assembly reference?)
  + This error occurs when you’re trying to use a namespace without first including it.
  + Check: If you have included *name* namespace in the file this error was thrown with the using statement (Check your using statements at the top of the class file)
    - EX. Are you missing using System.Collections.Generic; (or some other similar things)?
  + Check: If the project that has the namespace is included as reference to that project. (Check your .csproj file)
    - EX. If a class in UI is throwing error that it can’t find Restaurant, And you have included using Models; in your class, then make sure in UI.csproj has the <ProjectReference include=”path-to-model.csproj”/> tag and the path is correct.
* Unable to run your project.  
  Ensure you have a runnable project type and ensure 'dotnet run' supports this project.  
  A runnable project should target a runnable TFM (for instance, net5.0) and have OutputType 'Exe'.  
  The current OutputType is 'Library'.
  + This error occurs because the compiler can’t find the main method because you’re not running from your startup project
  + Check: Your current working directory.
* System.NullReferenceException: Object reference not set to an instance of an object.
  + You’re trying to access type member of null. (Like trying to read a Count of null, because you were expecting List<T> but instead you got null)
  + Make sure you’re checking for nulls
* When your syntax highlighting isn’t working in vs code
  + VS Code is confused because there are a lot of different stuff in your workspace for it to make sense out of
  + Make sure you have one coherent solution/projects loaded in your workspace.
    - IE. Don’t have the entire trainer-code repo loaded on workspace, it will be confused between all the different notes, projects, etc.
  + When it wants to install extra stuff to get C# extension working, accept it.
  + If all else fails, restart vs code
* error CS1002: ; expected
  + You forgot a semi colon
  + This can be a little tricky, because other syntax errors (such as misspelling) can cascade into a bunch of these being thrown.
  + Check: your spelling and any missing bracket and/or semi-colon around that error
  + Also working C# extension can help a ton with these type of errors
* error CS0103: The name *‘name’* does not exist in the current context
  + The compiler couldn’t find the thing you wanted to use
  + Possible cause 1: You forgot to make the method/variable you were planning on making
  + Possible cause 2: You misspelled the name
    - There is a spellchecker extension in vscode
* error CS0535: ‘<Class-name>’ does not implement interface member ‘<Interface.Method>’
  + Your class that implements an interface is not implementing every method of the interface
  + Check: Whatever class the error has been thrown on is implementing every member of the interface
  + Check: The method signature is the same with the one on interface (Are you returning the same thing and accepting the same parameters?)
  + Check: The access modifiers in the implementation (in your Implementing Class) is accessible to the outside (Did you accidentally set your method private in your class?)

Some debugging tips and tricks:

1. Work on one error at a time. When there are number of errors thrown, *do not panic*, and choose one to focus on.
2. Read the red text, aka the error message, slowly (I know it hurts the eyes and it’s kinda scary but it’s okay). The error message will try its best to clearly explain what’s wrong.
   1. Check which class threw the error. Go up the stack trace till you find it. It’s usually the last class (that you know you made) on that stack trace.
   2. Check what line threw the error. You may just be missing a semi colon.
   3. Read what error is occurring. Analyze the line that’s throwing the error and try to think about why you’re encountering that particular error.
3. Help! I don’t know the error!
   1. Go copy paste the error message/ type and look it up on google.
   2. Make sure to add the tech to the google search key word.
      1. Ex. C# or .Net Core for any C# related qs
   3. Go look at the stack overflow answers
4. I checked stack overflow, tried the solution, and now I get more errors!
   1. Did you implement the solution to fit your logic?
   2. Try another solution.
5. I followed the same steps as my trainer, why can’t I still get it to work?????
   1. Check steps 1-3
   2. After consulting with your batchmates and no one still has an answer, proceed messaging your trainer
6. Throw in a breakpoint or two to closely follow your program execution
7. Don’t be afraid to restart your IDE or do dotnet clean. Or restart your whole project (if everything is so mixed up) just make sure you remake your project early enough to still make the deadline.
8. Often times, clearing one error will result in uncovering another layer of even more errors. Consider that a win, you’re one step closer to a running program!