Questions for mock tech interview

* When you “build” a .Net program, what is actually happening?
* What is the CLR?
* What is the result of a build called? (Assembly)
* What is a namespace?
  + Class library
  + In code
* What is a variable and how is it implemented?
* What C# element would you use to do a repetitive operation (iteration)?
* How do you create branches in a C# program?
* What are the rules for name casing in C#?
* How do you package reusable actions in C#?
* How should you mark a method that has no return?
  + What do you do if you return a result?
* What are common built-in data types? How many bits?
* How is date/time represented in the computer?
* How do you define custom data types?
* Demonstrate the syntax to instantiate a class.
* What are the possible members of a class?
* What is the difference between a field and a property? Show an example of each.
* What principle of OOP do properties embody?
* What is an access modifier? Give some examples.
* Explain inheritance.
* Give me an example of polymorphism.
* What is garbage disposal? How does it work?
* How is scope determined in C#?
* How do you handle exceptions? Try...catch
* Reference type vs value type
* What app template would you use for a LeetCode problem?
* What is an array? Name some other collection types. Compare their advantages.
* Name some common data structures
  + Collection
    - Array
    - Dictionary
    - List
    - Linked list
    - Stack
    - Queue
  + Tree
  + Graph
* Describe a method to reverse a 1-dimension array
  + Check to make sure that index is divided by two
* How would you count the occurrences of each letter in a word?
  + dictionary
* How would you determine if a word is a palindrome?
  + Compare elements same distance from each end?
* How can you find if two words are anagrams?
  + dictionary
* How would you check brackets to see if they are properly matched?
  + Use a stack
* What is recursion? Give me a common example of its use.
  + Fibonacci sequence
  + Calculate factorial
* What is Big O?
  + What are the two types? Time vs space
  + Give some examples of better or worse time complexity.
    - Constant, linear, log, quadratic, exponential
* What is a model? What role do they serve?
* What function does inheritance serve?
* What class library do you use to read and write files?
* What package do you need to interact with a database?
* What is the difference between a class library and a package?
* What tool in Visual Studio do you use to manage packages?
* What does MVVM mean and what is it for?
* In .Net MAUI, where do you put event handlers?
* What is a C# attribute?
* Describe dependency injection.
* Tell me about a coding project you have worked on.