C# Class (Microsoft Visual Studio)

1. What is the difference between the == and = operator?
2. What is inheritance and why would we want to use it?
3. Why would we want to make various classes as opposed to having a single class?
4. Consider the following section of code from the definition of class OfficeBuilding.

```
public class OfficeBuilding
{
   public int sqrFeet;
   private string name;
   protected double cost;
   public OfficeBuilding() { … }
   protected bool isBuilt(){ … }
   public void moveIn(){ … }
   public double rentSpace(){ … }
   private int renovate(int days) { … }
}
```

   a. Which members/methods are visible to (accessible from) OfficeBuilding and its subclasses?
   b. Which members/methods are visible to (accessible from) only the OfficeBuilding class?
   c. Which members/methods are visible to (accessible from) any class?

5. Which of the following is correct?
   A. The *object* is the blueprint, and we can have many instances of it, called *classes*
   B. A *class* is like the blueprint, and we can have many instances of it called, which are called *objects*
   C. There is no difference between a *class* and an *object*
   D. The object keyword indicates we're defining an *object* and the class keyword indicates we're defining a *class*

6. What is the purpose of the %= operator?
7. Why are data structures important in programming?
8. Give an example of polymorphism. More specifically, provide/write a method (using C# syntax) in a base class so that it can be overridden in a derived class, and provide/write that method. The answer should only contain two methods.
9. Briefly describe the notion of a stream, and provide a brief example of how we used it in class.
10. What is the `delegate` keyword used for?
11. What is a lambda function?