Abstraction / OOP – Study Questions

- Design and implement a simple class `Date` (think about what a Date is, what pieces of data make a date?).
- Design and implement an `AppointmentBook` class. This class should let you
    - instantiate and object of type `AppointmentBook`
    - instantiate an object of type `AppointmentBook` given a `Date` parameter and a time parameter
    - set an appointment for a given `Date`, time and purpose (you should use the `Date` class of the previous question)
    - check if you have an appointment scheduled for a given `Date` and time
    - cancel an appointment at a given `Date` and time
    - get the purpose of an appointment at a given `Date` and time
    - anything else you might find useful in an `AppointmentBook` (have fun!!!)

  TIP: you can write an `Appointment` class or struct and your `AppointmentBook` class can store these in an array
- What does `const` mean in the following function prototype?
    ```
    string getName() const;
    ```
- What does `const` mean in the following function prototype?
    ```
    void setName(string& const name);
    ```
- Write code (one line) to instantiate an object of type `Date`.
- Write code (one line) to instantiate an object of type `Appointment` with a `Date` parameter (assume `Appointment` has a parameterized constructor that takes a parameter of type `Date`)
- Is the constructor of a class public, private or either? Why?
- What happens if a class definition does not have a constructor/destructor?