Pointer Exercise

1. Create a base class called Actor. It will need:
   1. Protected Variables: Name (char\*), Health (int)
   2. Public Getters and Setters for both variables
2. Create an Archer class that derives from Actor.
   1. In the Constructor:
      1. initialize the Name variable to “Archer”.
      2. Initialize the Health variable to 100.
3. Create a Weapon base class, it will need:
   1. Protected variables: Damage (int)
   2. Public Getters and Setters for the variable
4. Create an Arrow class, it will need a private Speed variable (float).
   1. In its constructor, initialize Speed to 30.0f;
5. Create a Bow class that derives from Weapon, it will need a private Range (float) variable, and an array of pointers to Arrows.
   1. In the constructor:
      1. Initialize the Arrow array with a size, and fill it with arrows.
      2. Initialize the Range variable to 200.0f.
      3. Initialize the Damage variable to 20.
6. Add a pointer to a Bow to the Archer class and initialize it in the Constructor.
7. Add a Print function to each class that prints out all its variables.

The main function should now create an Archer using a pointer, it should call Print() on it. Inside the Archer’s Print function it should call Print() on the Bow. Inside the Bow’s Print it should call Print() on each Arrow.

All together this should print out every variable of every class.

Now test if you have any memory leaks, if you do, fix them!