Question 1

object-oriented programming :: general knowledge	

Give brief definitions of the following terms:

- object

- class

- instance

- superclass

- subclass

- member

- method

- getters and setters

- accessors and mutators

- access modifiers
  - public

  - private

  - protected

Question 2

classes	
documentation	
consistency of style	

Preface your program with a block comment containing a short description of what it does, and with all necessary `#include` and `using` statements.

Next, write a `Character` class with the following members:

- A `name`, as a string, with either `private` or `protected` visibility.
- A default constructor that optionally accepts a constant reference to a `string` and initializes the `name` data member to that value.
- A `void` method named `sayName` that prints `"My name is "` followed by the `Character`'s name, followed by a newline, to standard output.

Next, write an `AvatarCharacter` class that inherits from `Character` and has the following members:

- An `element`, as a string, with either `private` or `protected` visibility.
- A default constructor that optionally accepts two constant references to `string`s, passes the first value to the parent constructor, and uses the second to initialize the `element` data member.
- A `void` function named `sayElement` that sends `"I bend "`, followed by the `AvatarCharacter`'s `element`, followed by a newline, to standard output.

Finally, write a short `main()` that calls the `sayName()` and `sayElement()` methods on objects of type `AvatarCharacter` to produce the following output:

Output

```
My name is Aang
I bend everything!
My name is Katara
I bend water :)
My name is Sokka
I bend nothing :(
```

Before you begin, please

- Be sure to write your answers neatly and in a good and consistent style. This will be graded. I recommend writing out your solution on the back of the test or on scratch paper and then copying it to page 3 (make sure to cross out the version you don't want graded). You might also consider using pencil, if pen is your usual choice.
- Try to comment with the level of detail you would find helpful (but not irritating) in code of similar complexity written by another student in this class.