Requirements:

- Design a class for the creatures
    - Make a bass class for the creatures
        - Has armor, strength values,
        - Has attack function
        - Has defense function
        - Need constructors
    - Make a derived class for each creature type
        - Need constructor
        - Needs to override as needed
            - Achilles heel doesn't affect goblin
            - Special means attack might not work on shadow
            - Different number and type of dice

Design:

Creature class

variables

Needs an armor and strength value – int values

Need to know if it is alive – bool

Need to know if it has it's attack halved - bool

Functions

Need a constructor, basic does nothing

Need a constructor to take armor and strength values

Need a get function for the alive variable

Need an attack function

get two random numbers and mod each by 6 then add 2

if attack is supposed to be halved, based on creature's bool variable

multiple the attack by .5

print the attack value

return the int value

Need a defense function – needs to take the attack value

Calculate the defense

Get a random number and mod by 6 then add 1

Calculate the damage

Take the attack passed in and subtract the defense, then subtract the creatures armor value

Apply damage to strength

Subtract the damage from the strength

Figure out if the creature has it's Achilles heel cut

If the attack is twelve and the attacker is a goblin

Set bool to true

Figure out if creature is still alive

If strength is 0 or less

Set alive bool to false

Print values

Print the defense

Print the damage value

Print the strength remaining

Goblin class

Need a constructor

Make empty constructor initiate a creature object with it's specialize armor and strength as the parameters

Need to override the defense

Same as creature defense,

except if the attacker is a goblin and the attack is twelve, the bool is not altered

Barbarian class

Need constructor

Empty constructor with creature constructor for special armor and strength

Need to override defense

Same as creature defense,

Except the defense calculation is made with two random numbers each mod by 6 and then add 2

Reptile People class

> Need constructor
>
> > Empty constructor with creature constructor for specialized armor and strength
>
> Need to override attack
>
> > Same as creature attack,
> >
> > Except the attack is made with 3 random numbers each mod by 6 and then add 3

Blue Men class

> Need constructor
>
> > Empty constructor with empty creature constructor
>
> Need to override the attack
>
> > Same as creature attack,
> >
> > Except the attack is made with 2 random numbers each mod by 10 and then add 2
>
> Need to override the defense
>
> > Same as creature defense,
> >
> > Except the defense is made with 3 random numbers each mod by 6 and then add 3

Shadow class

> Need constructor
>
> > Empty constructor with creature constructor for specialized armor and strength
>
> Need to override the attack
>
> > Same as creature attack,
> >
> > Except the attack is made with 2 random numbers each mod by 10 and then add 2
>
> Need to override the defense
>
> > Same as creature defense,

Except need to make the damage be 0 50% of the time before the damage is applied to the strength

Create variable to hold a random number which is mod by 2

If the variable is 0

Set damage to 0

Main

Create two creature pointers

Create a variable to hold the int from an attack

Do

Ask the user what creature they want to use

Make the first creature pointer that derived class of creature

Ask the user what second creature they want to use

Make the second pointer that type of creature

While neither creature is dead

Get the first creatures attack and save to the variable

Call the second creature's defense with the save attack as the parameter

Switch the pointers with the use of a temp creature pointer

Delete the pointers

While the user want to have another fight

Return 0

Testing

See testing doc.

Reflections

I ended up changing some aspects of my creature class. I figured out that I needed to know in that class if the derived class was a goblin. So I made a bool variable and created a get function so that my main program could see it and tell the other derived classes that the attacking class was a goblin. I also added a name variable for easy of use. At first I hard coded everything, but thinking that we may add some, I decided to make it more dynamic. Adding the name made it so that I had to add so string variable to my most complex constructor and I created a third constructor that took only that name. I also figured out that since the shadow isn't where the attack landed when an attack it negated, it should not have it's Achilles heel cut. At first I didn't think of that scenario, since it is not addressed in the prompt, but that is the conclusion I came to. In addition, I moved the list of creature into it's own function as well as moving the fighting loop into it's own function so that they were out of main and easier to find and alter as needed.