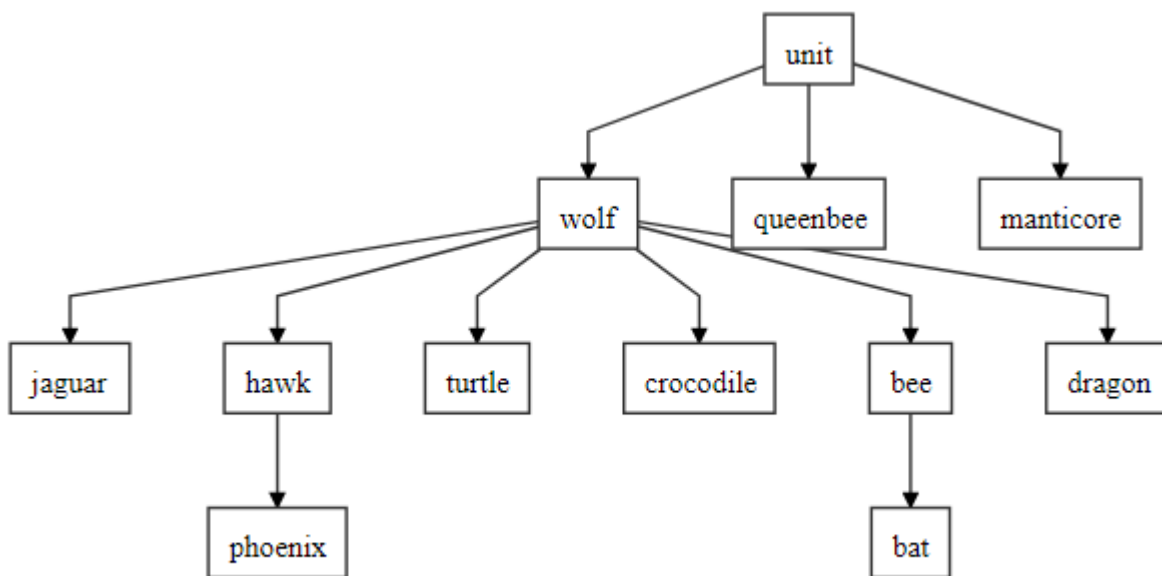# COMP 2012H Assignment 3 report

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c++11 is required

As I use `map` , `pair` and `constexpr`

Inherence relationship

- unit is the basic
- queenbee and manticore do not have move other than attack and defense, and their way for attack and defense is different from others, so they are directly inherited from unit
- wolf is units that do single normal attacks, and provide positional attack mechanism (wolf is modified to optimize the program, as requirement said do not modify unit.h but did not say do not modify wolf, so I implement some helper function, such as positional attack mechanism with defensible flag and console animation helpers, for the wolf family, and classes which need these helpers can just inherit wolf)
  - jaguar, hawk, turtle, crocodile, bee, dragon, phoenix all do single normal attack
  - jaguar, hawk, turtle, crocodile, bee, dragon all use positional attack mechanism
  - bee is healable
    - so as bat, so inherit from bee to reduce repeating of code
  - phoenix's behavior somehow is similar to hawk, so inherit from hawk
- I was thinking making crocodile, hawk, dragon, bat inherit from turtle, as all of them only take some portion of damage during defense, but I found making this inherence will increase the complexity and will not help reducing code, so I do not do that

- I was thinking making crocodile, queenbee, phoenix, manticore inherit from hawk, as all of them revenges, but I did not do it because of the same reason as above

Bonus Part

Phoenix

hp	atk	defense
30	Do 6 indefensible damage to the enemies with lowest hp as phoenix is highly intelligent	the attack will have 30% change to miss and take only 70% of damage, as pheonixis very agile. Attacker will suffer from 1 hp damage as phoenix is covered with fire, when the pheonix is hit.

Manticore

hp	atk	defense
35	It poisons opponent. It chooses opponent with highest hp to poison by adding 3 poison level. If the target's posion level is higher than target's hp, it will choose next highest hp as target until it finds the best match. Poisoned unit will lose a hp of its poison level at its turn before attack, and poison level will drop by 1.	take only 80% of the damage because manticore is strong. However, manticore is toxic, it have 40% chances to paralysis the attacker. Paralysis unit will lose one turn, and cannot contribute to special move (but still can contribute to special move activation).

Additional Features

Skip animation

when execute this program, if you compile it as `a.out`, run it as

```
./a.out s
```

it will skip the animation

Support Windows