**Project Design**

The Zoo Tycoon game should have six required classes; the zoo class, the animal class, the tiger class, the penguin class, the turtle class, and the newAnimal class. The Animal class will be a pure virtual function that will be the base class for the tiger, penguin, turtle, and newAnimal classes. Within the zoo class, there are five required member variables. Of the five, four of them will be overridden by the derived class, as they have different values for the each of those classes.

The Zoo class will house the main variables and functions for the project. It will have a variable to hold the amount of money the zoo currently has, dynamic arrays for each of the animal types, and a function that will run the game.

**Pseudocode**

Animal class

Private:

Int age;

Double cost;

Int numBabies;

Double baseFoodCost;

Double payoff;

public:

Animal();

~Animal();

// Getters

Int getAge();

Double getCost();

Int getNumBabies();

Double getBaseFoodCost();

Double getPayoff();

// Setters

Void setAge(int ageIn);

Void setCost(double costIn);

Void setNumBabies(int babiesIn);

Void setBaseFoodCost(double foodCostIn);

Void setPayoff(double payoffIn);

// increase age

Void increaseAge();