Learning Activity

C++ Object Inheritance Programming Exercise

Subject Code and Title	SEP401 Software Engineering Principles
Module Number	Module 6

There are 2 questions to complete for this Learning Activity

Question 1: Access Levels

Fill in the blanks in the following table which describes the access levels in a derived class's members. i.e. State whether the member's access level is public, private, or protected - or, if it is not accessible!

Class Access specifier	Base Class Member Access Level	Derived Class Member Access Level
public	private public protected	• • •
protected	private public protected	• • •
private	private public protected	• • •

Question 2: Programming Exercises

1. The ZooAnimal class definition below is missing a prototype for the Create function. It should have parameters so that a character string and three integer values (in that order) can be provided when it is called for a ZooAnimal object. Like the Destroy function, it should have return type void. Write an appropriate prototype for the ZooAnimal Create function.

```
class ZooAnimal
{
 private:
   char *name;
   int cageNumber;
   int weightDate;
   int weight;
 public:
   void Destroy (); // destroy function
   char* reptName ();
   int daysSinceLastWeighed (int today);
};
```

2. Write a function header for the ZooAnimal class member function daysSinceLastWeighed. This function has a single integer parameter today and returns an integer number of days since the animal was last weighed.

```
void ZooAnimal::Destroy ()
{
 delete [] name;
}

// -------- member function to return the animal's name
char* ZooAnimal::reptName ()
{
 return name;
}

// -------- member function to return the number of days
// -------- since the animal was last weighed

{
 int startday, thisday;
 thisday = today/100*30 + today - today/100*100;
 startday = weightDate/100*30 + weightDate - weightDate/100*100;
 if (thisday < startday)
    thisday += 360;
 return (thisday-startday);
}
```