

## ABC Farm

On a farm, there were two kinds of animals: dairy cows and goats. Each animal on the farm has the following attributes:

- Identifier: an integer
- Weight: a real number
- Age: a real number

a) Please declare the **DairyCow** and **Goat** classes with the following properties and methods:

- Above properties.
- Constructors (default, parameterized, copy): each object of these two classes is created with the information code, weight, age.
- The Identifier value of a dairy cow or goat is only set once at initialization and cannot be changed later. The remaining values (weight, age) can be changed, please declare all possible setters/getters for 2 classes.
- **ToString** method: output all information of the object to the screen.

b) Declare and define the assignment operator for the above 2 classes.

c) The age and weight of a cow or goat must be a positive number, so write the methods to check for the validity of these attribute values.

d) Given the class “ABCFarm” to represent the farm information:

```
class ABCFarm{
    private:
        vector<DairyCow> cows;
        vector<Goat> goats;
    public:
        void Input();
        void Output();
        void OutputByAge(int min, int max);
};
```

The method 'OutputByAge(int min, int max);' allows to output the information of dairy cows and goats on the farm whose age ranges from min to max. Let's define the above method and add the declarations of other methods needed to support the method 'OutputByAge(int min, int max);' (if necessary).