

BTH001

Object Oriented Programming

Lesson 06

Container classes

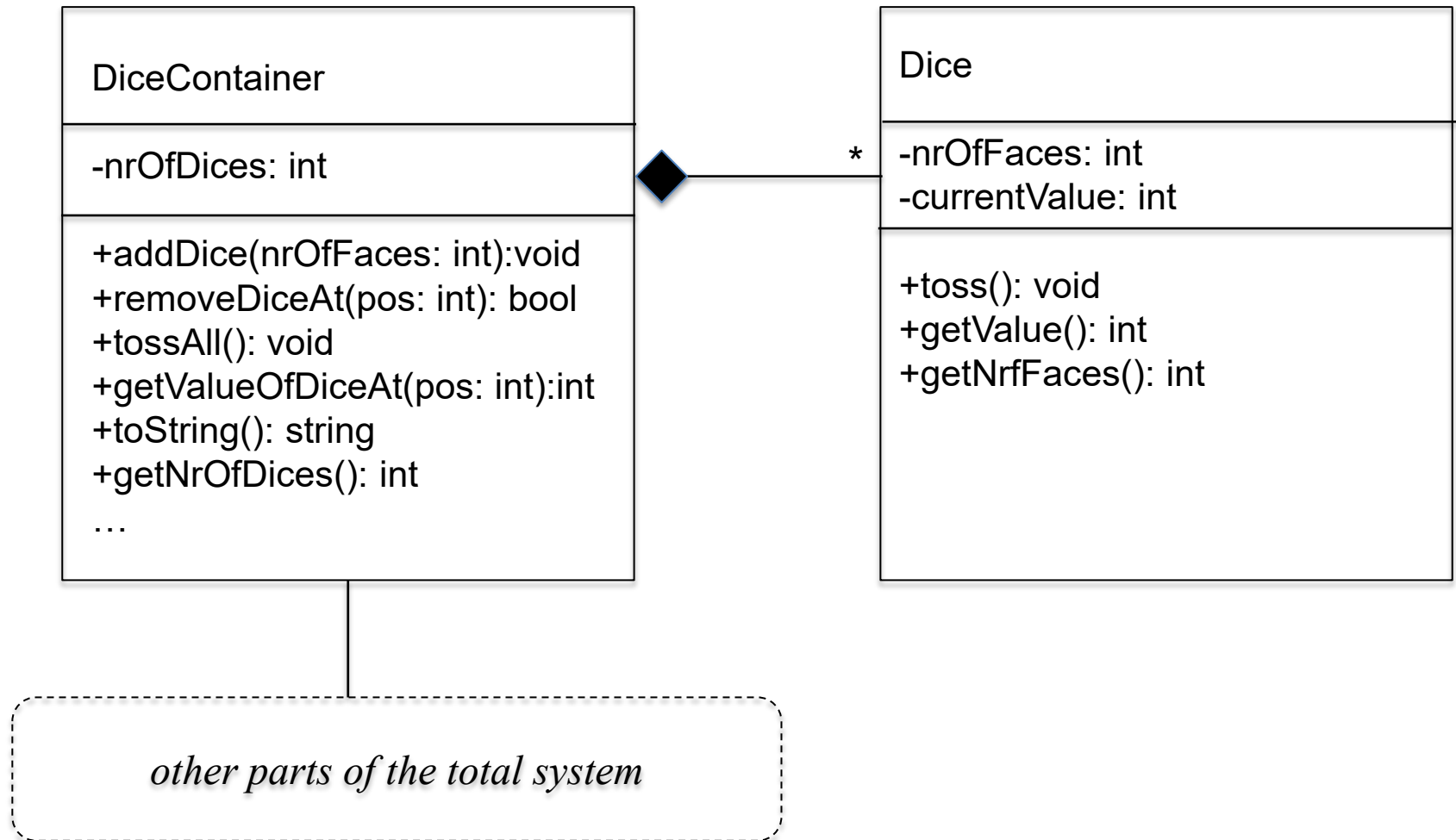
Container class

- Handles several objects of other class type/types.
- Contains member variable/variables that can "hold" objects of other class type/types.
 - Statically allocated array of objects
 - Dynamically allocated array of objects
 - Statically allocated array of pointers
 - Dynamically allocated array of pointers
 - vector-object
 -
- This is an example of the relationship Composition

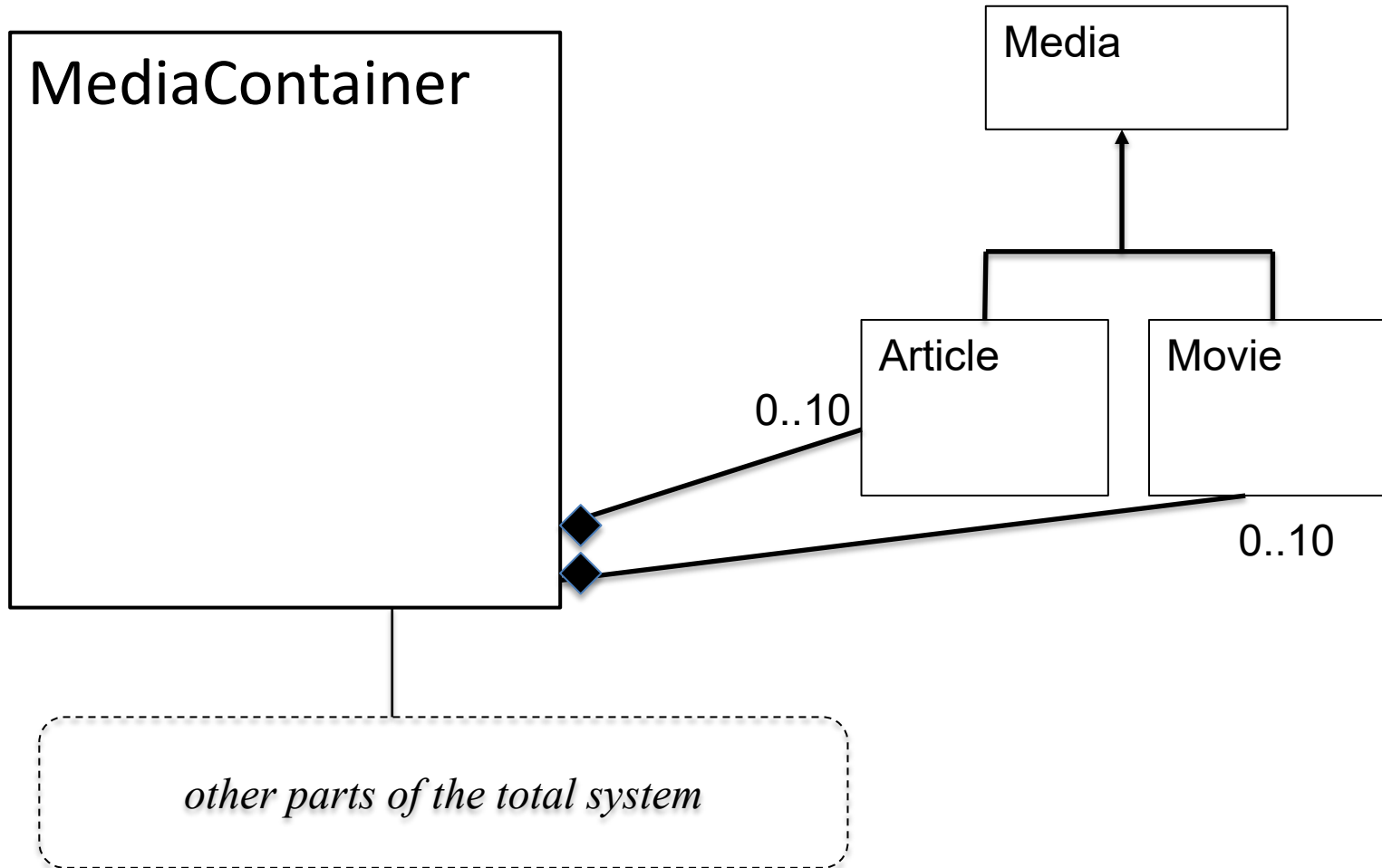
Container class continued

- Has member functions for handling the objects
- For example
 - Adding (information for) new objects
 - Searching for objects
 - Removing objects
 - Getting specific information from objects
 - and so on....

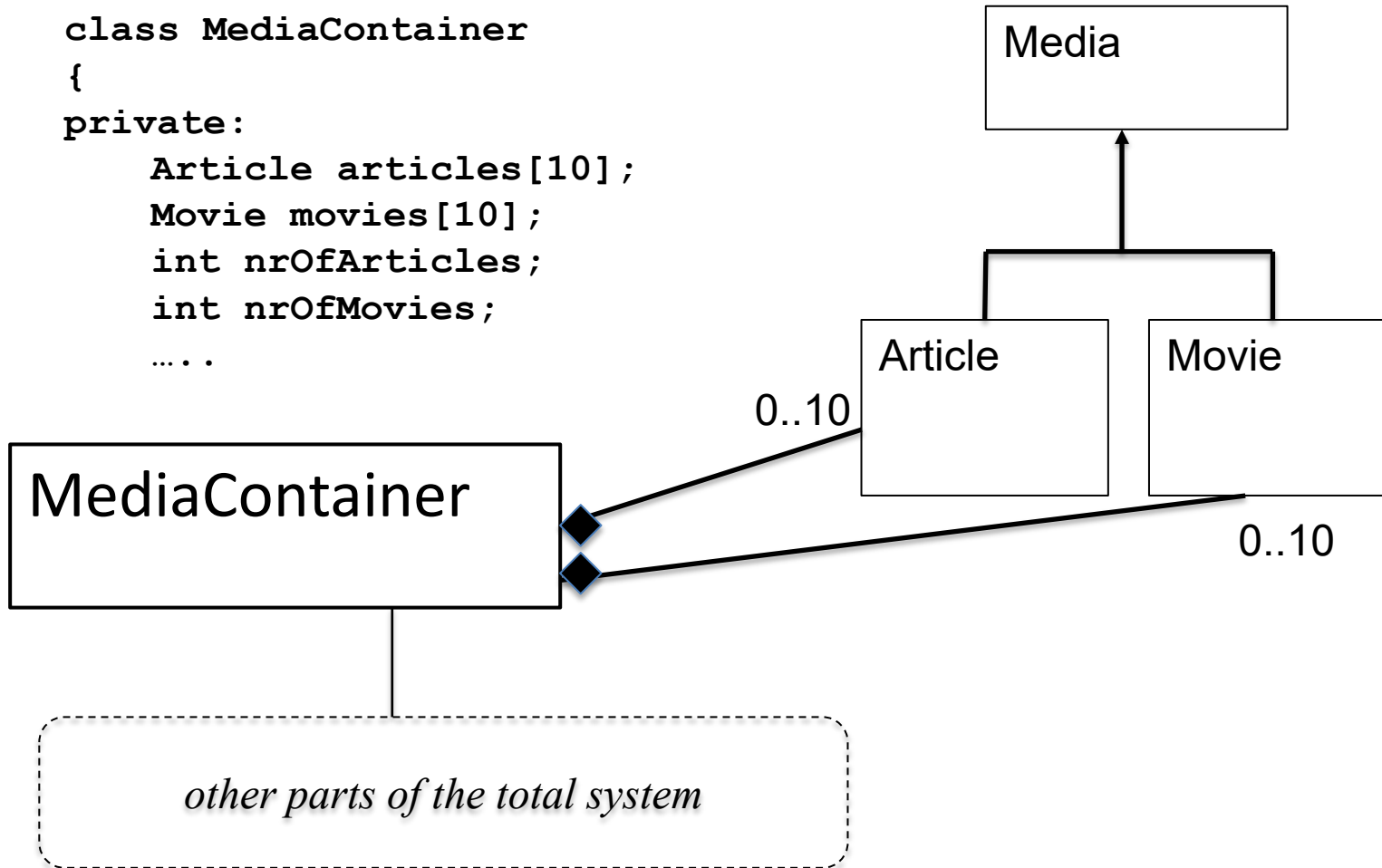
Example: DiceContainer



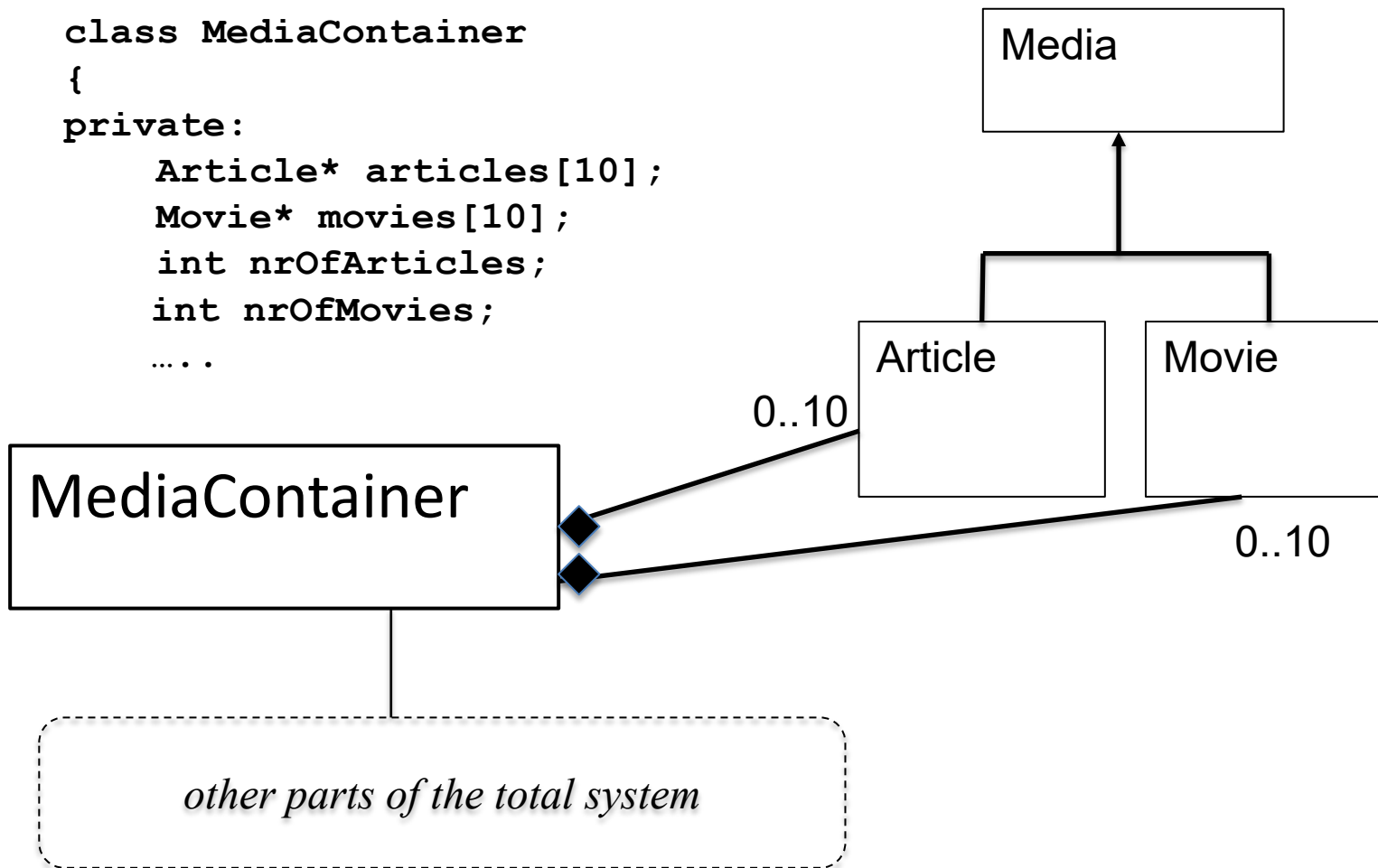
Example: MediaContainer 1



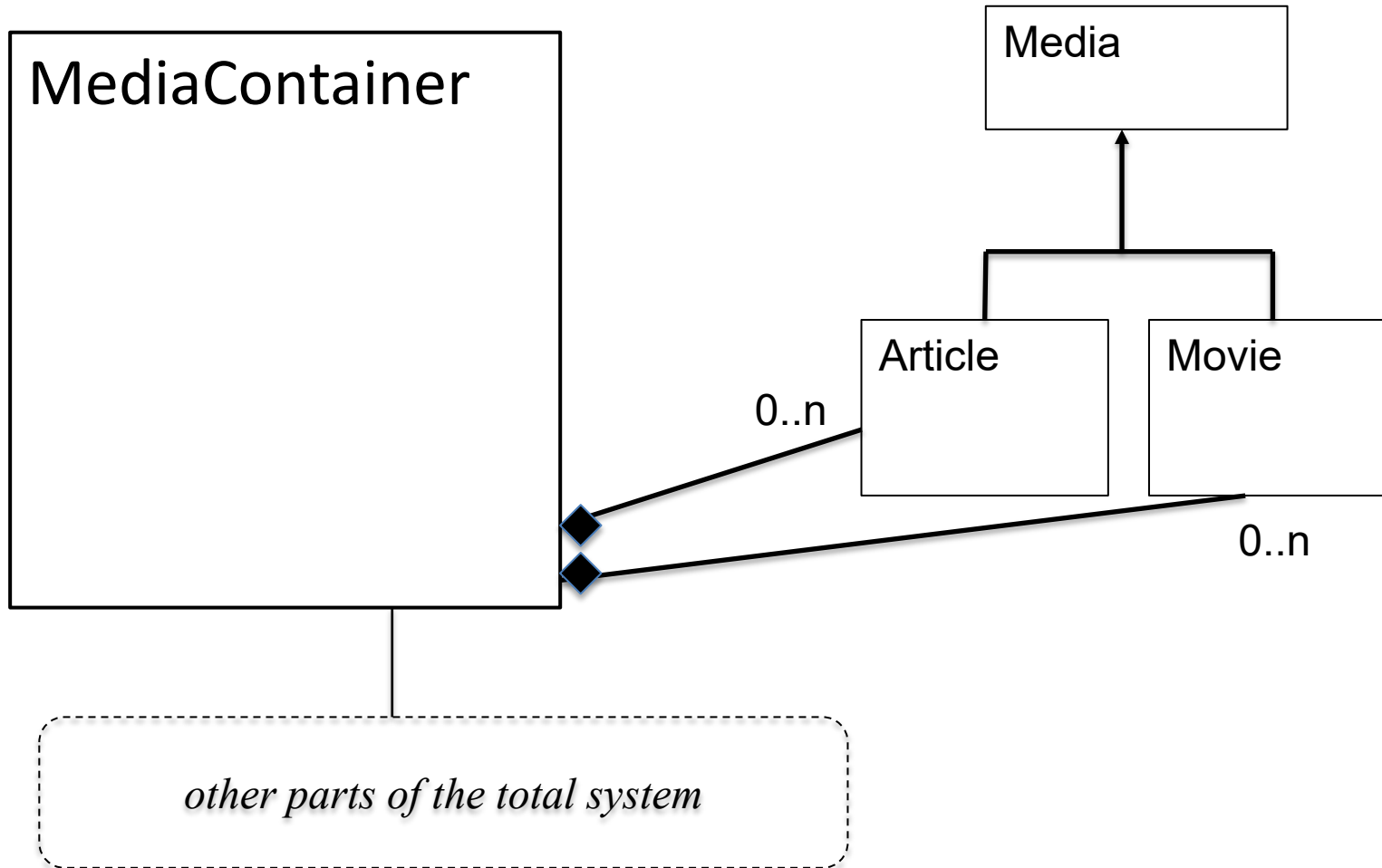
```
class MediaContainer
{
private:
    Article articles[10];
    Movie movies[10];
    int nrOfArticles;
    int nrOfMovies;
    ....
```



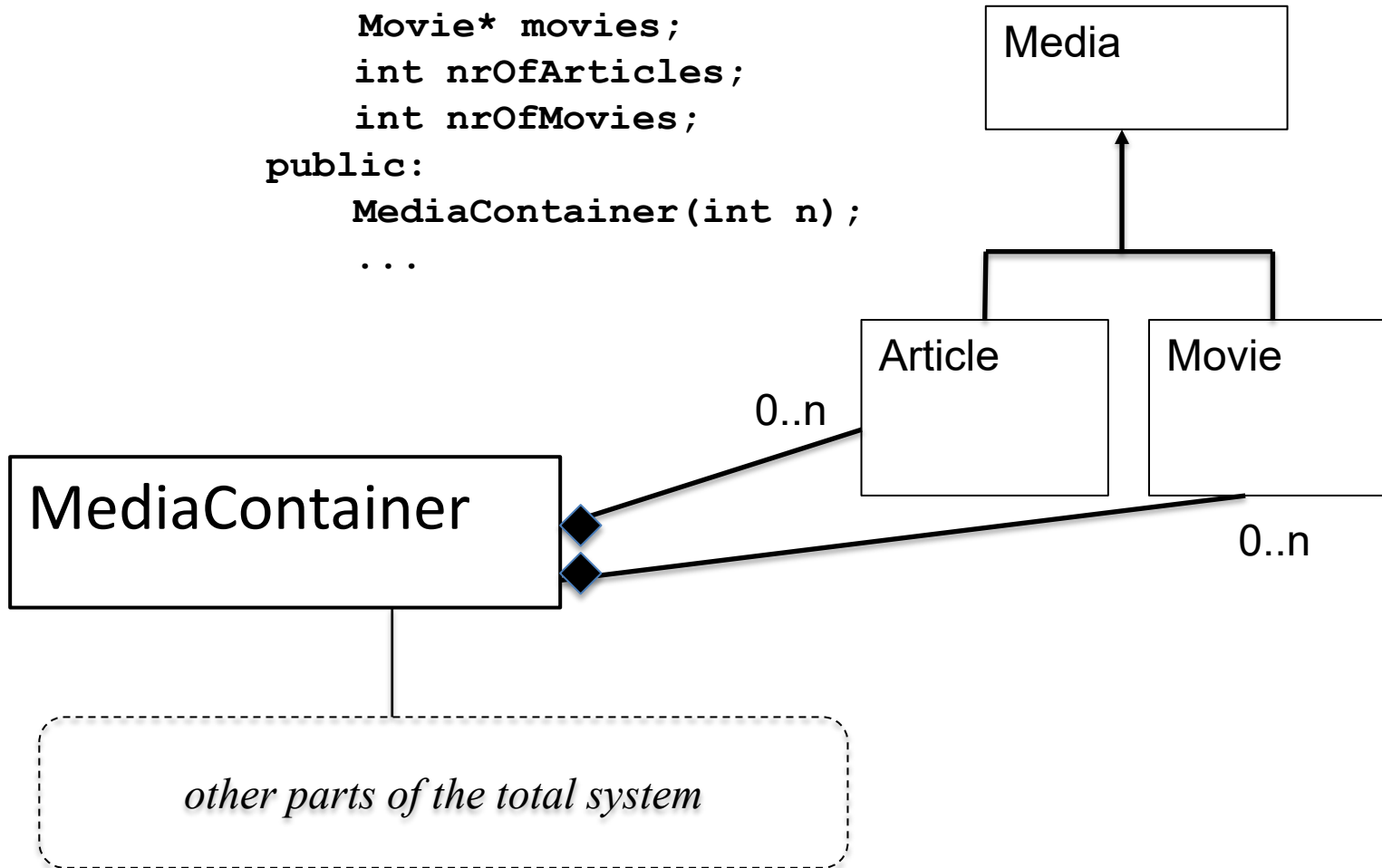
```
class MediaContainer
{
private:
    Article* articles[10];
    Movie* movies[10];
    int nrOfArticles;
    int nrOfMovies;
    ....
```



Example: MediaContainer 2

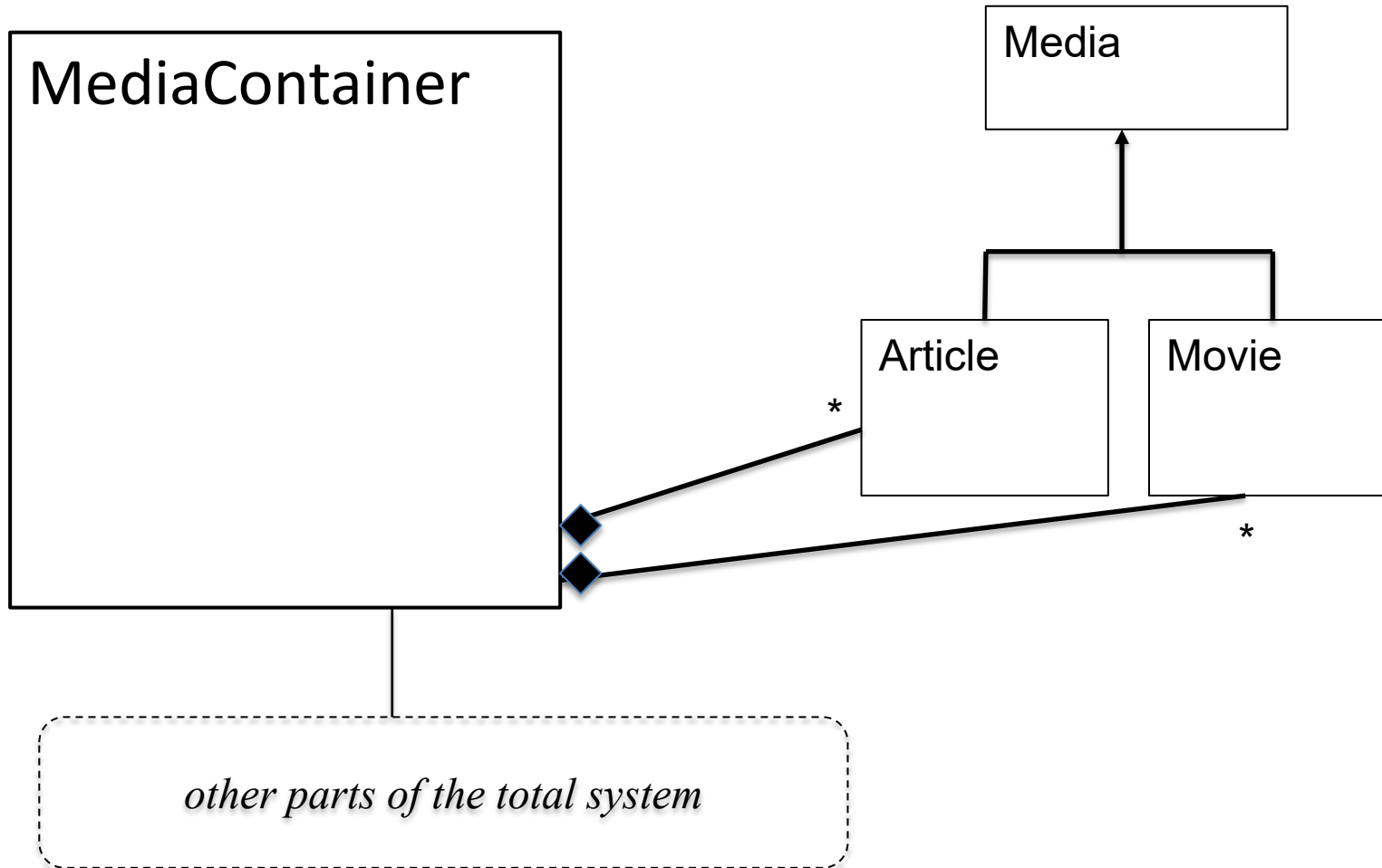



```
class MediaContainer
{
private:
    int n; // the capacity
    Article* articles;
    Movie* movies;
    int nrOfArticles;
    int nrOfMovies;
public:
    MediaContainer(int n);
    ...
}
```

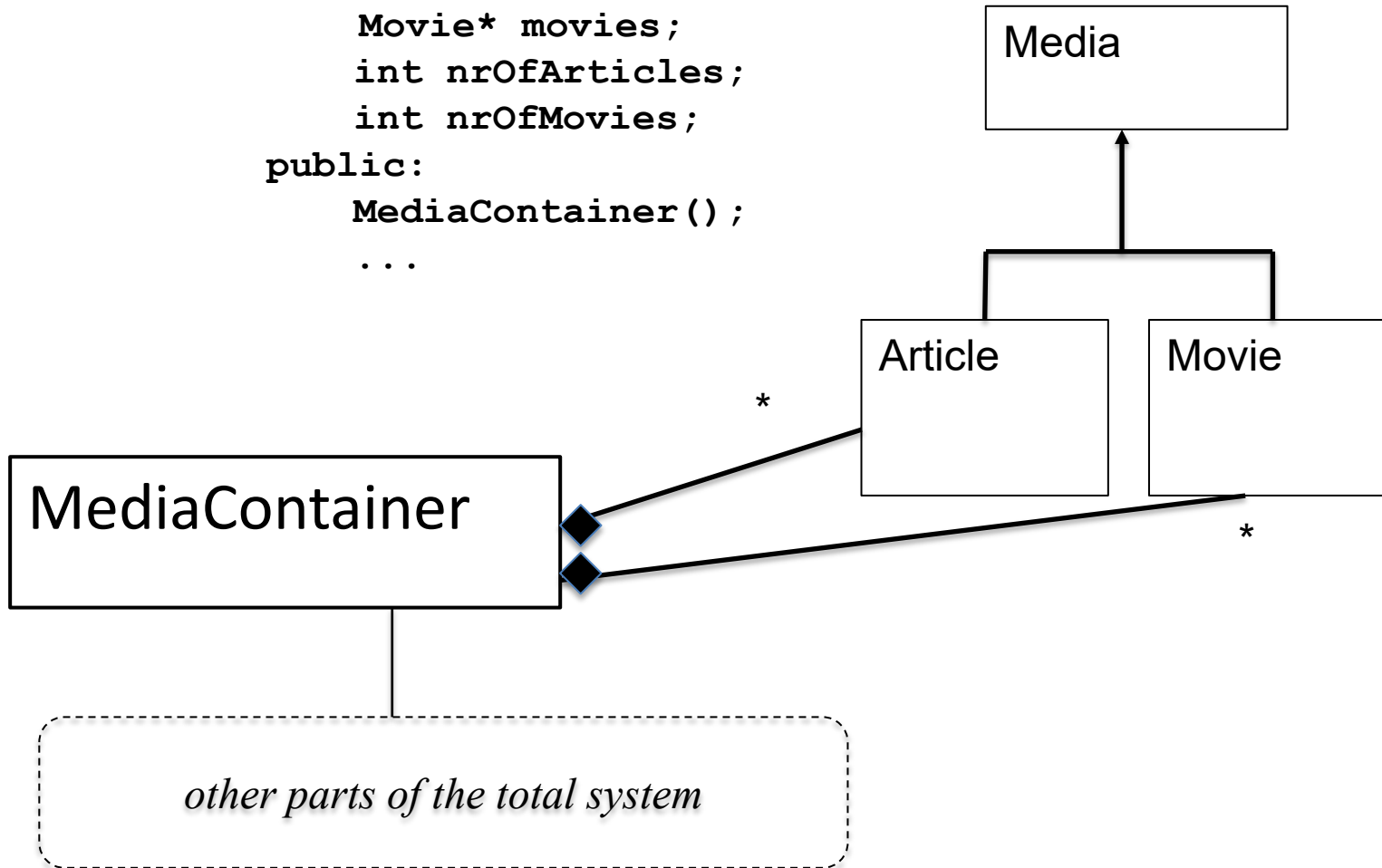




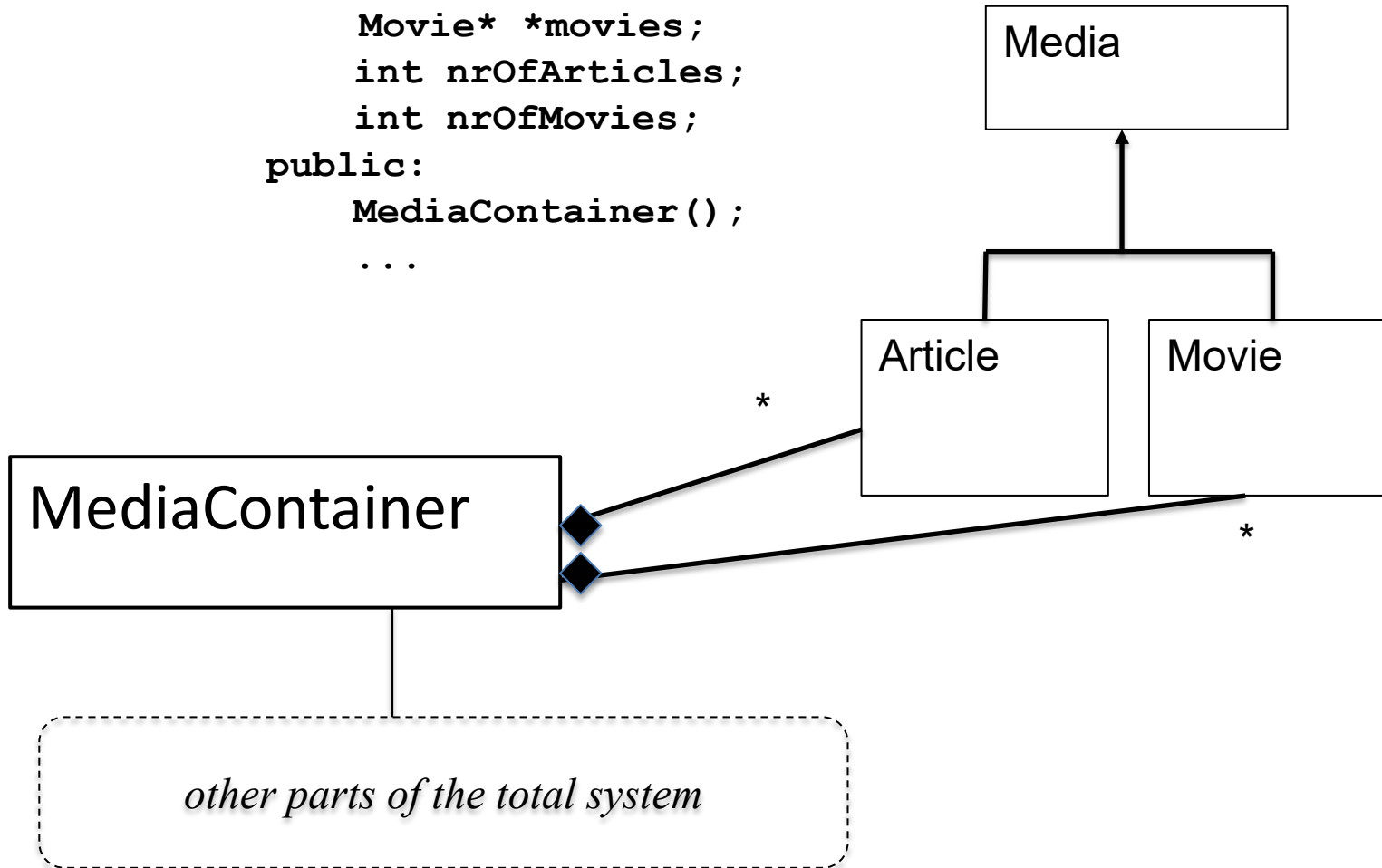
Example: MediaContainer 3



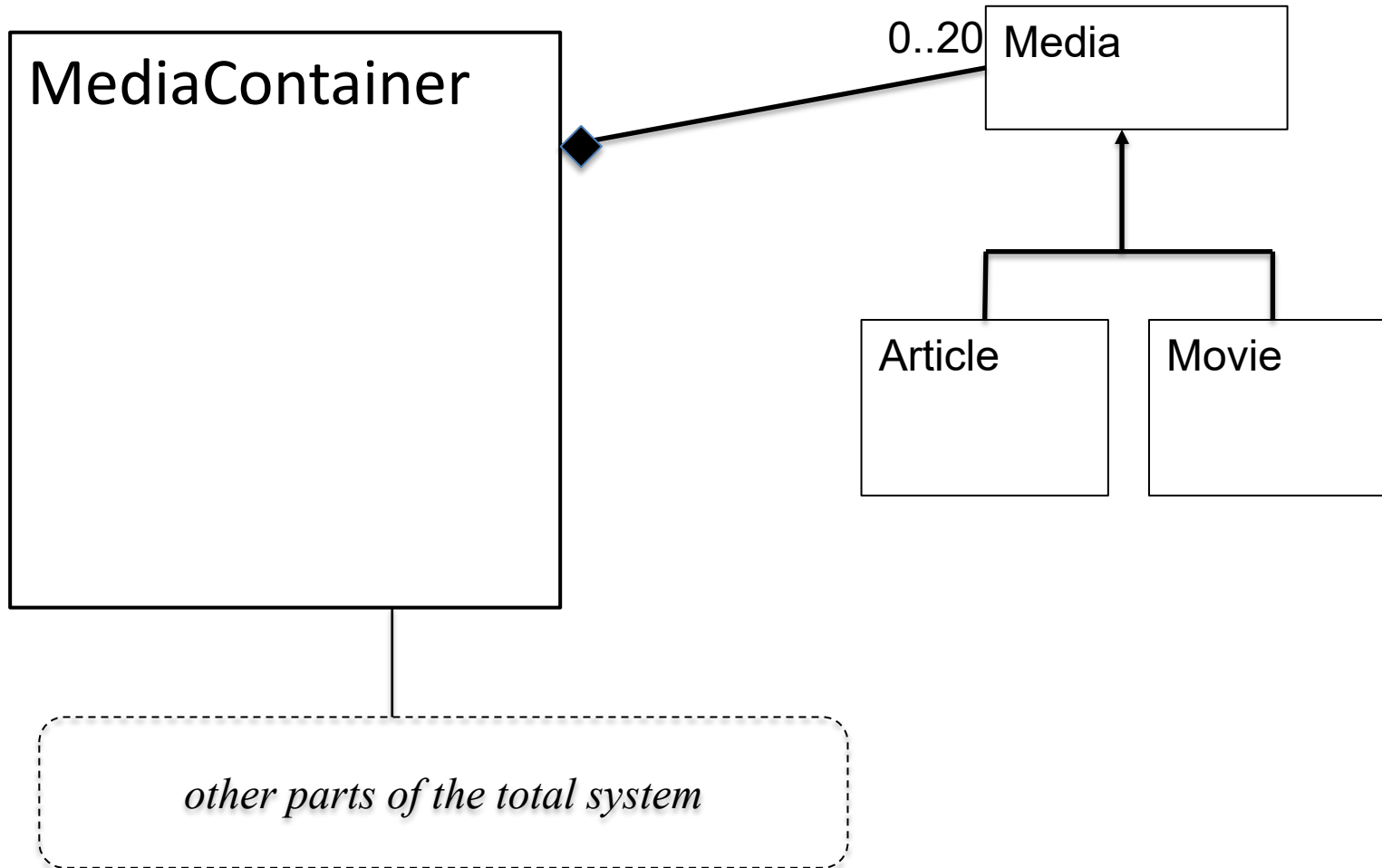
```
class MediaContainer
{
private:
    int currentCapacity;
    Article* articles;
    Movie* movies;
    int nrOfArticles;
    int nrOfMovies;
public:
    MediaContainer();
    ...
}
```



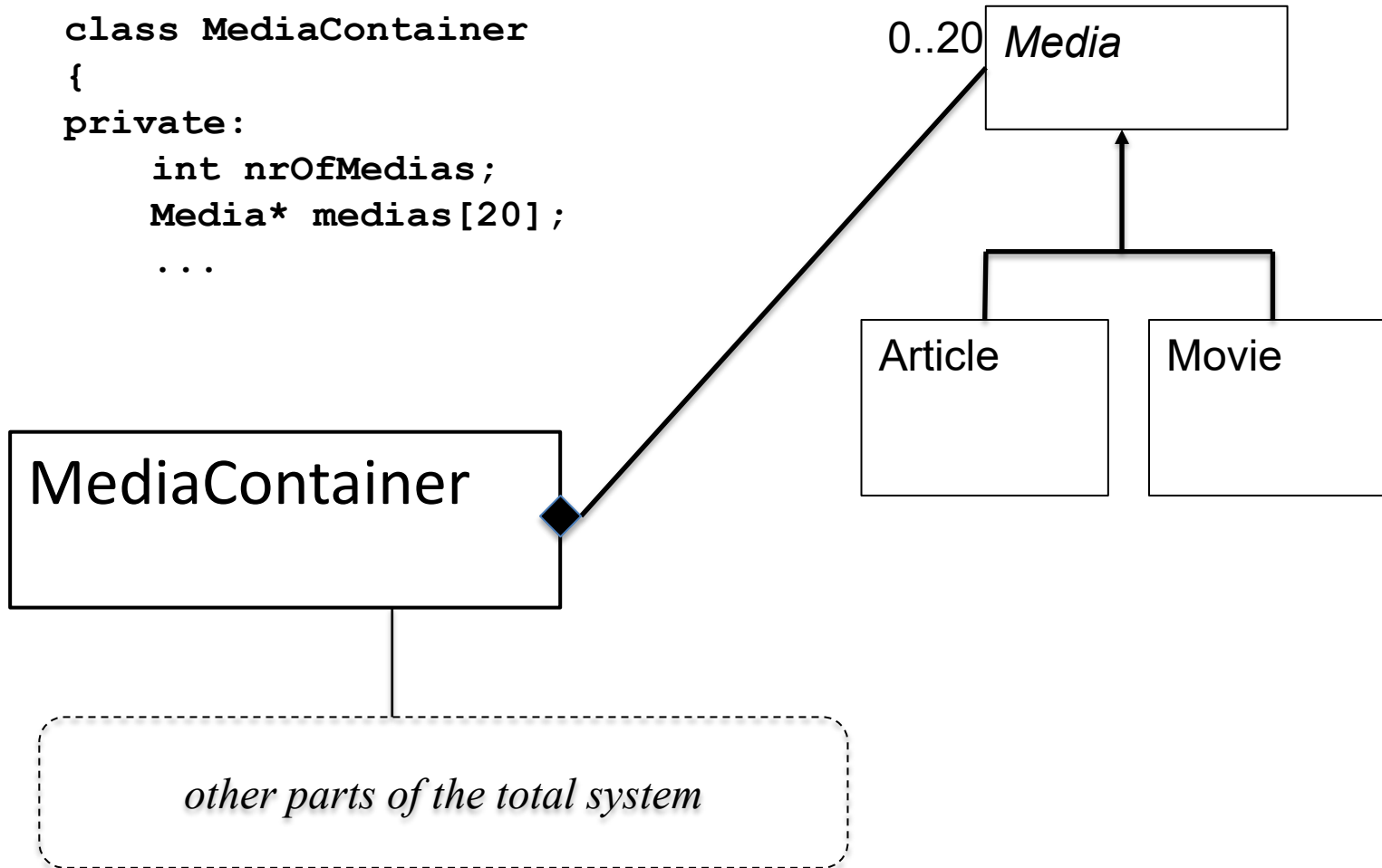
```
class MediaContainer
{
private:
    int currentCapacity;
    Article* *articles;
    Movie* *movies;
    int nrOfArticles;
    int nrOfMovies;
public:
    MediaContainer();
    ...
}
```



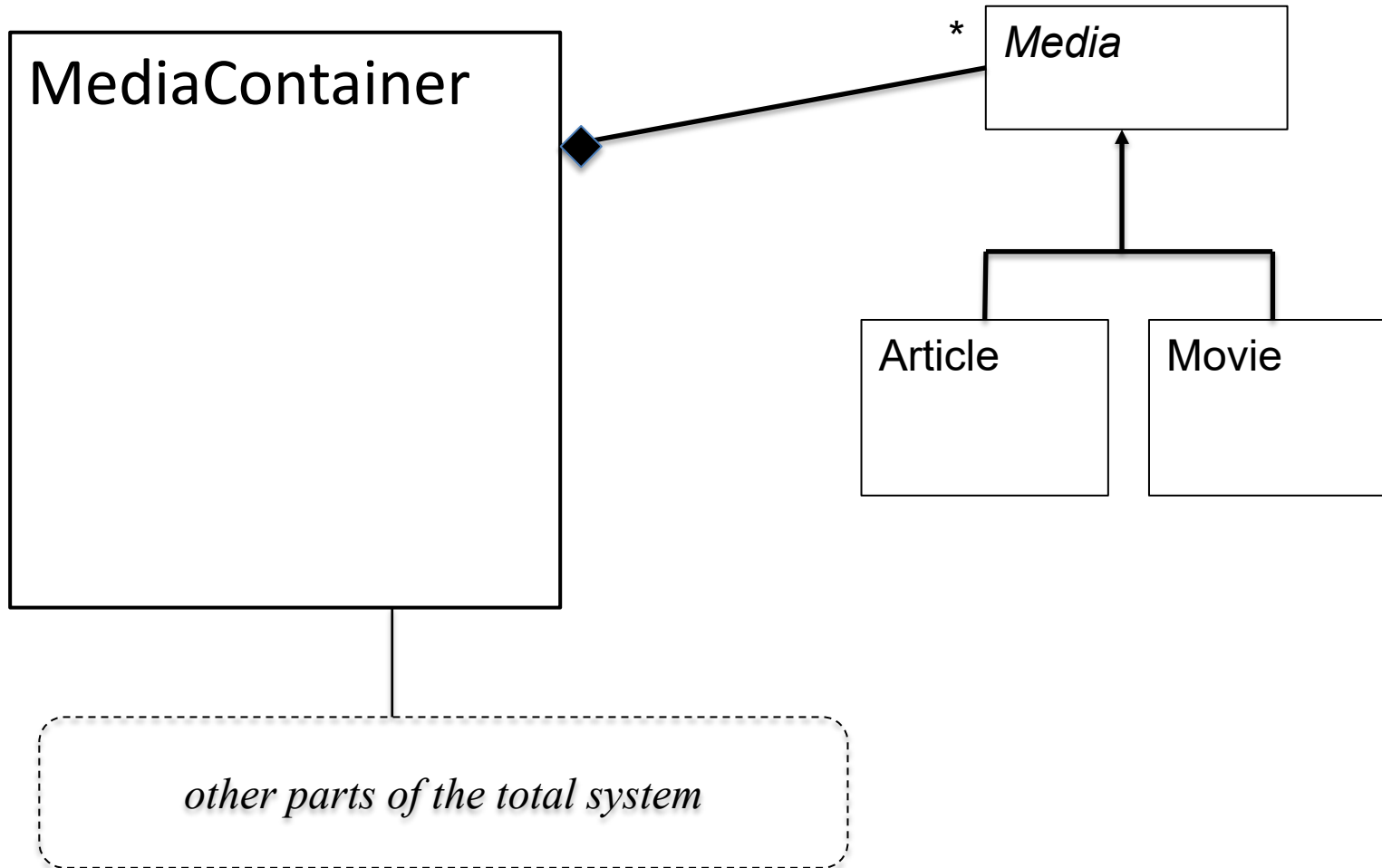
Example: MediaContainer 4



```
class MediaContainer  
{  
private:  
    int nrOfMedias;  
    Media* medias[20];  
    ...  
}
```



Example: MediaContainer 5




```
class MediaContainer  
{  
private:  
    int currentCapacity;  
    int nrOfMedias;  
    Media* *medias;  
    ...  
}
```

