

## Week 6- Assignment (3 marks)

**Note: Try to make the best use of appropriate C++ features.**

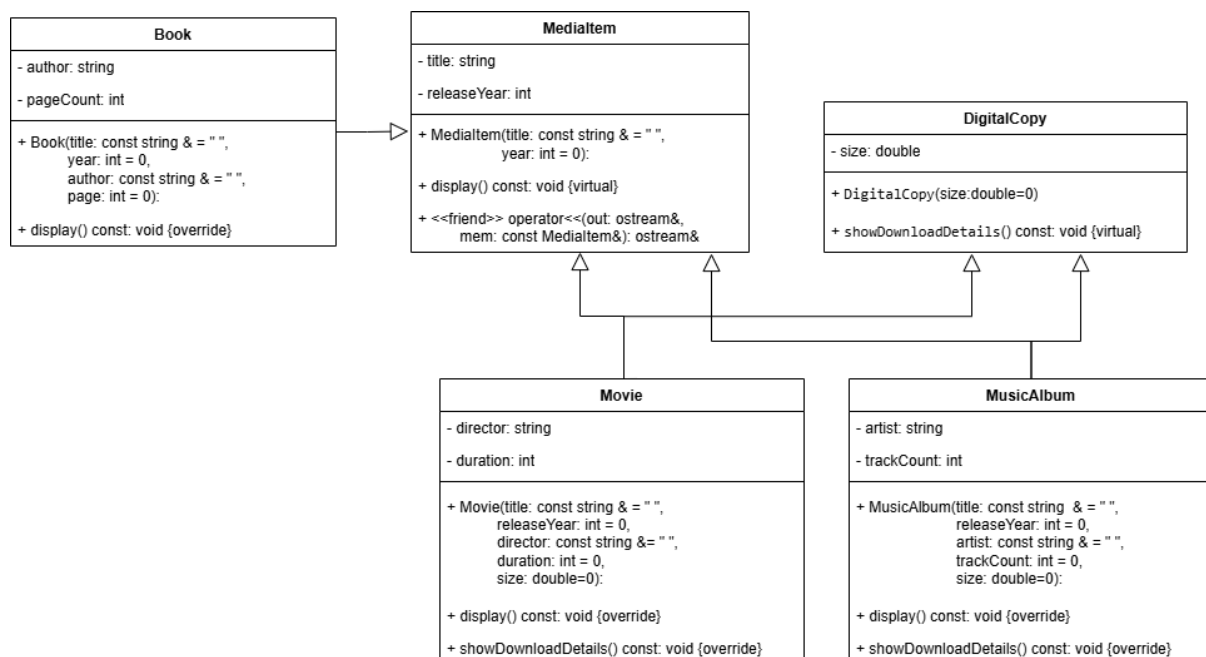
In this assignment, you will design and implement a set of C++ classes that model a simple media library system.

You are required to implement the classes strictly based on the provided UML diagram.

The system includes books, movies, and music albums, with support for digital download information, and demonstrates concepts of inheritance, polymorphism, and virtual functions.

You must:

- Analyze the UML and the provided main() function carefully. **Ensure** that your class design is **compatible with the provided main() function** and can **produce the expected output**.
- Appropriately use inheritance, virtual functions, override specifiers, and friend functions.
- Correctly define and implement all classes according to the UML diagram.
  - Only implement the member variables and functions explicitly listed in the UML.
  - Do not add helper functions, extra attributes, or other changes beyond the UML design.
  - Do not omit any required function.



**Input:**

Please use the provided ***run\_wa6.cpp*** to test your implementation.

Don't modify the **main** function in the cpp.

**Output:** (should be like the below)

```
Output 1: Title: CODE, Year: 2000, Author: Charles Petzold, Pages: 400
Output 2: Title: Inception, Year: 2010, Size: 1000 MB, Director: Christopher Nolan, Duration: 148 min
Output 3: Title: Thriller, Year: 1982, Size: 20 MB, Artist: Michael Jackson, Tracks: 9
```

**Submit:****1, all C++ source code:**

Organizing the source code into separate files **is not mandatory**.

You can consolidate all code into a single cpp file.

**2, WA6.txt:** a txt file contains all the source code.**3, output.jpg (or png, bmp):** a screenshot of the output by your program

**Please refer to the submission page for the Marking Rubric.**