***EXERCISE 11***🡪 <https://www.cpe.ku.ac.th/~plw/oop/e_book/ood_with_java_c++_and_uml/ch7.pdf>

**PROMPT:** The following should be textually analyzed and a use case diagram created containing several use cases. Identify the actors, use cases and associations. Please, use the user goal level approach. Please give me the PlantUML code for the use case diagram corresponding to the following text:

***Add asset to database: The system shall permit head librarians to add library assets such as books, magazines, newspapers, microfilm, and audiocassettes to the asset database. A bar code sticker affixed to the asset by a librarian will be scanned and used to refer to the asset within the system's asset database. -Books and audiocassettes are due within 21 days -Magazines are due within two days -Newspapers cannot be checked out. -Microfilm is due within three hours. Delete assets from database: The system shall permit head librarians to remove assets from the asset database. An asset that is checked out will automatically be checked in before being removed from the asset database***

ChatGPT

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Based on the provided text, let's identify the actors, use cases, and associations for the use case diagram using a user goal level approach:

**Actors:**

1. Head Librarian

**User Goals:**

1. **Add Asset to Database:**
   * *Actor:* Head Librarian
   * *Description:* The head librarian wants to add various types of library assets (books, magazines, newspapers, microfilm, and audiocassettes) to the asset database. A bar code sticker affixed to the asset will be scanned for reference within the system.
2. **Delete Asset from Database:**
   * *Actor:* Head Librarian
   * *Description:* The head librarian wants to remove assets from the asset database. If an asset is checked out, it will be automatically checked in before being removed from the database.

**Associations:**

* The head librarian is associated with both "Add Asset to Database" and "Delete Asset from Database."

**Additional Information:**

* Different types of assets have different due dates:
  + Books and audiocassettes: Due within 21 days
  + Magazines: Due within two days
  + Newspapers: Cannot be checked out
  + Microfilm: Due within three hours

Now, let's create the PlantUML code for the use case diagram:

@startuml

actor "Head Librarian" as Librarian

rectangle "Library Asset Management" {

usecase "Add Asset to Database" as AddAsset

usecase "Delete Asset from Database" as DeleteAsset

}

Librarian --> AddAsset

Librarian --> DeleteAsset

@enduml

**PROMPT:** You could maybe have extended dashed arrows relating add book, add magazine, add newspaper, etc. to the use case "add asset to database" don't you think?

ChatGPT

**ChatGPT**

Certainly! If you want to represent the specific asset types (book, magazine, newspaper, etc.) as extended use cases of the general "Add Asset to Database" use case, you can use extend relationships with dashed arrows. Here's the modified PlantUML code:

@startuml

actor "Head Librarian" as Librarian

rectangle "Library Asset Management" {

usecase "Add Asset to Database" as AddAsset

usecase "Delete Asset from Database" as DeleteAsset

usecase "Add Book" as AddBook

usecase "Add Magazine" as AddMagazine

usecase "Add Newspaper" as AddNewspaper

usecase "Add Microfilm" as AddMicrofilm

usecase "Add Audiocassette" as AddAudiocassette

}

Librarian --> AddAsset

Librarian --> DeleteAsset

AddAsset --> AddBook : <<extend>>

AddAsset --> AddMagazine : <<extend>>

AddAsset --> AddNewspaper : <<extend>>

AddAsset --> AddMicrofilm : <<extend>>

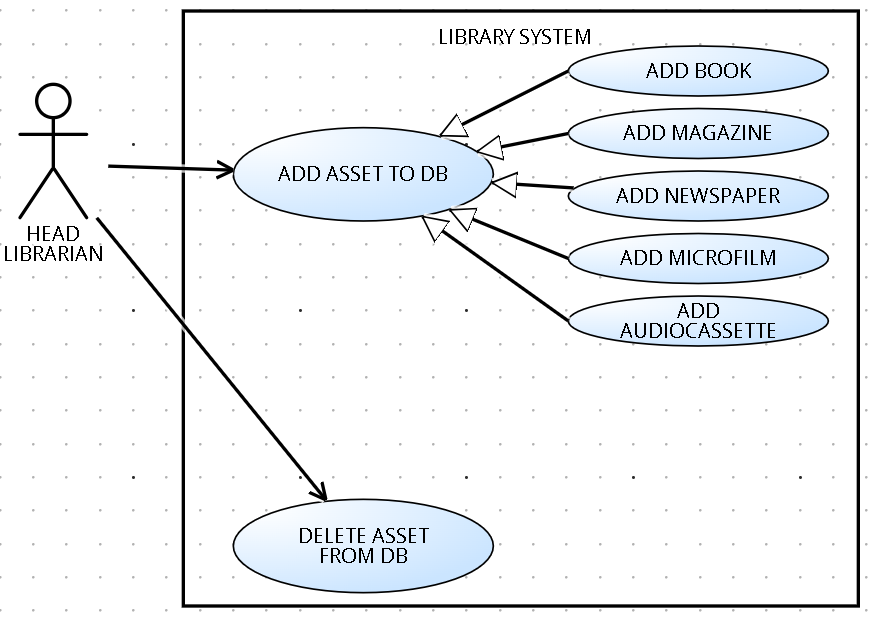
AddAsset --> AddAudiocassette : <<extend>>

@enduml

**Analysis:**

This exercise was initially solved correctly but in a simple manner by ChatGPT, encompassing the two principal use cases. However, it lacked the extended use cases for the "add asset" use case. While the exercise and the initial outcome were satisfactory, a more comprehensive result was obtained with the second code generated. This improvement occurred after requesting the inclusion of extended use cases, demonstrating ChatGPT's capacity to refine and enhance its solutions based on user feedback.

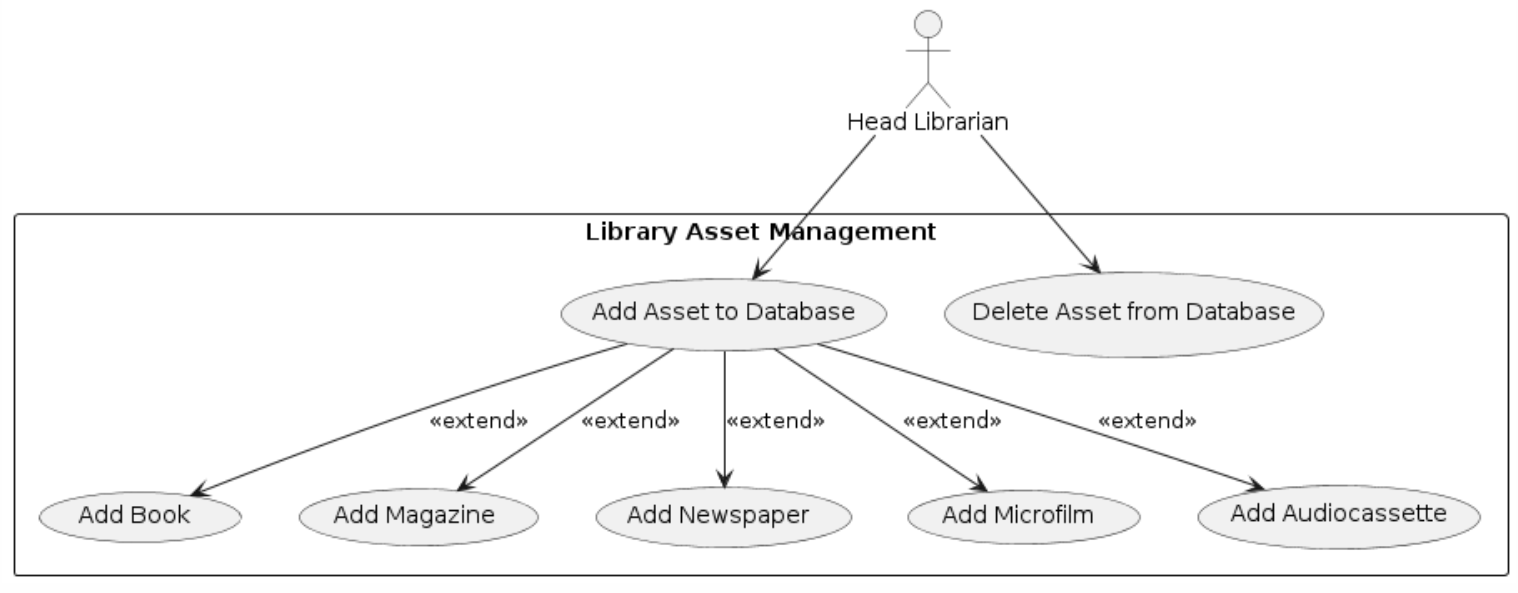
**MY SOLUTION:**

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**REFERENCE SOLUTION:**

PAGE NOT FOUND ANYMORE (LIMITATION)

**LLM SOLUTION:**

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