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| --- |
| **Portfolio** |
| \_name : string  \_major : string  \_startingDate : DateTime  \_endDate : DateTime  \_classes : List <string>  \_gpa: List <int>  \_gradeInPercentage: List <int>  \_credits: List <int>  \_booksAndTopics : List <string>  \_title : List <string>  \_author: List <string> |
| **Portfolio (**name, major, startingDate, endDate, classes,gradeInPercentage, credits**)**  **Portfolio (**booksAndTopics, title, author**)**  **Portfolio (**booksAndTopics**)**  **GetStringDetails (): string** (abstract)  **GetStringRepresentation (): string** (abstract)  **CalculateGpa ()** : void  **CalculateGradeLetter ()** : string |

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| **ManagePortfolio** |
| \_classes : List<Portfolio>  \_status: int |
| DisplayCurrentClasses () : void  CalculateProgress () : int  DisplayMenu () : void  Save () : void  Load () : void |

**Classes and Interactions**

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| **ClassesUncompleted** |
|  |
| **ClassesUncompleted (**name, major, startingDate, endDate, classes,gradeInPercentage, credits**)**  **GetStringDetails (): string** (override)  **GetStringRepresentation (): string** (override) |

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| --- |
| **CurrentClasses** |
|  |
| **CurrentClasses (**name, major, startingDate, endDate, classes,gradeInPercentage, credits**)**  **GetStringDetails (): string** (override)  **GetStringRepresentation (): string** (override) |

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| **ClassesCompleted** |
|  |
| **ClassesCompleted (**name, major, startingDate, endDate, classes,gradeInPercentage, credits**)**  **GetStringDetails (): string** (override)  **GetStringRepresentation (): string** (override) |

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| **OwnedBook** |
|  |
| **Portfolio (**booksAndTopics, title, author**)**  **GetStringDetails (): string** (override)  **GetStringRepresentation (): string** (override) |

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| **WantedBooks** |
|  |
| **Portfolio (**booksAndTopics, title, author**)**  **GetStringDetails (): string** (override)  **GetStringRepresentation (): string** (override) |

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| **StudyTopics** |
| \_source : List <string> |
| **Portfolio (**booksAndTopics, source**)**  **GetStringDetails (): string** (override)  **GetStringRepresentation (): string** (override) |

**Attributes**

**Portfolio**

\_name : string

\_major : string

\_startingDate : DateTime

\_endDate : DateTime

\_classes : List <string>

\_gpa: List <int>

\_gradeInPercentage: List <int>

\_credits: List <int>

\_booksAndTopics : List <string>

\_title : List <string>

\_author: List <string>

**ManagePortfolio**

\_classes : List<portfolio>

\_status: int

**StudyTopics**

\_source : List <string>

The Portfolio base classes contain attributes that are similar behavior in all the classes (**ClassesUncompleted**, **CurrentClasses**, **ClassesCompleted**, **OwnedBook**, **StudyTopics**, **StudyTopics**, **WantedBooks**). So we have each class inheriting each one of those behaviors.

The **ManagePortfolio** Class has two attributes that will help it to store all the classes that the student is taking and the status of his/her graduation path.

The **StudyTopics** class besides of inherit \_ booksAndTopics : List <string> from the base class it also contains a list to store the source of the topics it is going to have.

**Behaviors**

The program will help the student to visualize all the classes he has done, the ones that he hasn’t done, will track how far he is to accomplish the school requirements for graduation and will also allow him to record any changes. The **ManagePortfolio** class will be uncharged with showing the menu and display the messages to the user, it will also allow him to save and load any student data.

The **Portfolio** class has attributes and behaviors that are going to be overridden and inherited by the derived class. The derived classes (**ClassesUncompleted**, **CurrentClasses**, **ClassesCompleted**, **OwnedBook**, **StudyTopics**, **StudyTopics**, **WantedBooks**) besides of inheriting some attributes, they will override the **GetStringDetails ()** and **GetStringRepresentation ()** member functions, they are going to display similar things but in different ways that’s why I am going to override them. I might make a few changes when I am coding this program they the idea of how the program is going to run is unique.