**A1 extension:**

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For the A1 extension, I have implemented the WatchList class it is written as follows:

* To use it I have included the Movie, Genre, Director and Actor class which are key functionalities
* For the constructor, it is created without any parameter. I created self.\_\_movies which is type of list that stores the List of movies as well as self.\_\_ind which is initialized as 0, which is first variable of the list.
* I have set the property as movies and return the self.\_\_movies object.
* I have set size(self) method, which returns the size of self.\_\_movies using the length function in python.
* I have created add\_movie(movie), which takes the movie object as a parameter. If the movie object is not in list, then add it to the list.
* I have created remove\_movie(movie), which takes the movie object as a parameter. If the movie object movie is in list, remove movie from the list else pass this function.
* I have created first\_movie\_in\_watchlist(movie), which takes the movie object as a parameter. If the size of movie is equal to zero, return none, else, return the self.\_\_movies[self.\_\_ind].
* I have created the select\_movie\_to\_watch(index), which takes index which is positive integer as parameter. If the index is greater or equal to the size of list, then return None. Else, then return self.\_\_movies[index].
* Finally, I have created the iter and next function, which iterates through the list and prints it one by one.

Unittest for A1 extension.

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| --- | --- |
| Test | Result |
| watchlist = WatchList()  print(f"Size of watchlist: {watchlist.size()}")  watchlist.add\_movie(Movie("Moana", 2016))  watchlist.add\_movie(Movie("Ice Age", 2002))  watchlist.add\_movie(Movie("Guardians of the Galaxy", 2012))  print(watchlist.first\_movie\_in\_watchlist()) | Size of watchlist: 0  <Movie Moana, 2016> |
| watchlist = WatchList()  watchlist.add\_movie(Movie("Moana", 2016))  watchlist.add\_movie(Movie("Ice Age", 2002))  watchlist.add\_movie(Movie("Guardians of the Galaxy", 2012))  print(f"Size of watchlist: {watchlist.size()}")  print(watchlist.first\_movie\_in\_watchlist()) | Size of watchlist: 3  <Movie Moana, 2016> |
| watchlist = WatchList()  watchlist.add\_movie(Movie("Moana", 2016))  watchlist.add\_movie(Movie("Ice Age", 2002))  watchlist.add\_movie(Movie("Guardians of the Galaxy", 2012))  watchlist.remove\_movie(Movie("Ice Age",2002))  print(f"Size of watchlist: {watchlist.size()}") | Size of watchlist: 2 |
| watchlist = WatchList()  watchlist.add\_movie(Movie("Moana", 2016))  watchlist.add\_movie(Movie("Ice Age", 2002))  watchlist.add\_movie(Movie("Guardians of the Galaxy", 2012))  watchlist.add\_movie(Movie("Moana", 2016))  print(f"Size of watchlist: {watchlist.size()}") | Size of watchlist: 3 |
| watchlist = WatchList()  watchlist.add\_movie(Movie("Moana", 2016))  watchlist.add\_movie(Movie("Ice Age", 2002))  watchlist.add\_movie(Movie("Guardians of the Galaxy", 2012))  watchlist.remove\_movie(Movie("2012",2012))  print(f"Size of watchlist: {watchlist.size()}") | Size of watchlist: 3 |
| watchlist = WatchList()  watchlist.add\_movie(Movie("Moana", 2016))  watchlist.add\_movie(Movie("Ice Age", 2002))  watchlist.add\_movie(Movie("Guardians of the Galaxy", 2012))  watchlist.add\_movie(Movie("2012",2012))  print(watchlist.select\_movie\_to\_watch(3)) | <Movie 2012, 2012> |
| watchlist = WatchList()  watchlist.add\_movie(Movie("Moana", 2016))  watchlist.add\_movie(Movie("Ice Age", 2002))  watchlist.add\_movie(Movie("Guardians of the Galaxy", 2012))  watchlist.add\_movie(Movie("2012",2012))  print(watchlist.select\_movie\_to\_watch(4)) | None |
| watchlist = WatchList()  watchlist.add\_movie(Movie("Moana", 2016))  watchlist.add\_movie(Movie("Ice Age", 2002))  watchlist.add\_movie(Movie("Guardians of the Galaxy", 2012))  watchlist.add\_movie(Movie("2012",2012))  for i in watchlist:  print(i) | <Movie Moana, 2016>  <Movie Ice Age, 2002>  <Movie Guardians of the Galaxy, 2012>  <Movie 2012, 2012> |

The github respiratory link is <https://github.com/skim132/A1-extension>.