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CAB301 Assignment

***An algorithm that you designed for implementing the function “Display the top 10 most frequently borrowed movie DVDs by the members in the descending order of the frequency***

For a function that displayed the top 10 movies two methods were developed. An function that uses the insertion algorithm on an array that always contains the top 10 movies, or the number of movies that have greater than 0 rentals. This method is the better method as it prevents a sorting algorthim each time the top 10 list is requested. Instead the array is available without any modifications when called. The array is instead updated at the rental time of a movie. When a movie is rented, three options can occur:

* The movie could not already be on the list and not have more rentals than the 10th position, in this case nothing is done.
* The movie could not already be on the list but has more rentals than the 10th position. In this case the 10th movie is replaced with the new movie then the list is sorted using insertion sort.
* The movie could already be on the list, in this case insertion sort is called on the current list to see if the movie just rented can move up in the list, again using insertion sort.

***Analysis of the time complexity of the algorithm***

***Your functional testing results - screenshots for each of the functional tests.***