CE 242 - Data Structures and Algorithms
Spring 2009 - Ahmet Ardal
Lab Assignment 2

1. Using the reference linked list data structure implementation, write a program as follows:

- Create a linked list named pListGrades, (Hint: Use `ListCreate()` function)
- Read id-grade pairs from the console and create Grade structures dynamically until the user enters a negative id value,
- Append each Grade structure you created to pListGrades as you create it, (Hint: Use `ListAppend()` function)
- After constructing and filling pListGrades, create two more lists with names pListFailed, pListPassed,
- Traverse the grades list; when you encounter a Grade object whose grade field is less than 30 add it to the list named pListFailed and when you encounter a Grade object whose grade field is greater than or equal to 30 add it to the list named pListPassed, (Hint: Use `ListForeach()` function)
- Print all grades in the pListGrades and destroy pListGrades, (Hint: Use `ListDestroy()` and `ListForeach()` functions)
- Print the grades those two lists (pListFailed, pListPassed) contain separately as "Failed Grades" and "Passed Grades", (Hint: Use `ListForeach()` function)
- Finally, destroy pListFailed and pListPassed lists.

Above is the explanation of the HW#1's first question. This time write a program that does what is explained above by using List module's `ListForeach`() function. That is write two callback functions that perform the filtration operation. (Hint: Filtration here means the separation of all Grades into passed and failed ones.)

Also use `ListForeach()` function to print list items by writing a callback function that prints a single Grade object and passing this callback function's address to `ListForeach()` when calling it to print Grades a list contains.