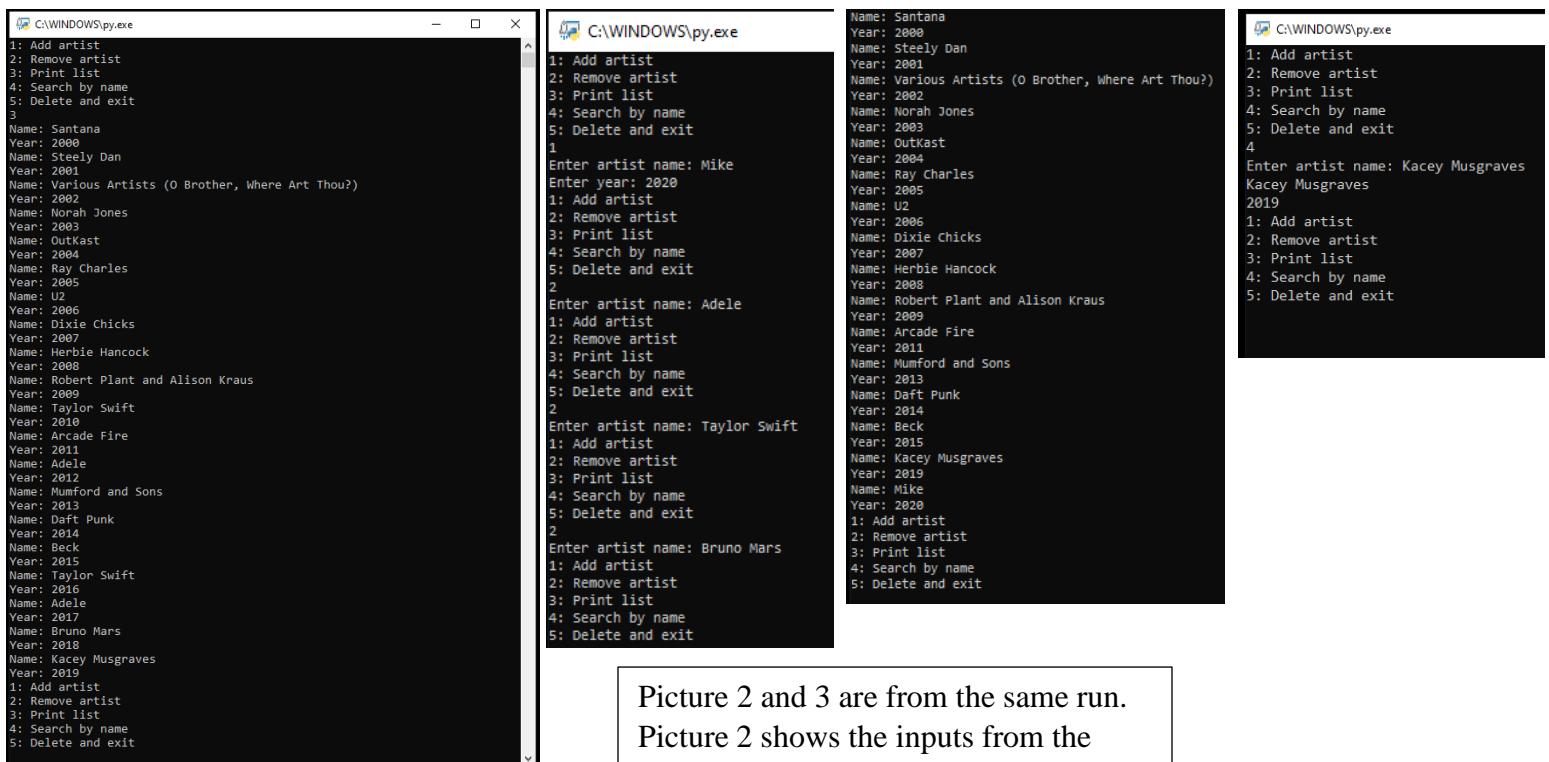


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ELEC-3150-03  
12/5/19

## Lab09

This program is a recreation of the previous Grammy Winner labs. For this program though, it is written in Python. Python's arrays are handled like lists, so creating a linked list like previous labs is much easier. Documentation on the array object in Python was utilized to identify the right class functions to use in this program. The documentation can be found on Python's website: <https://docs.python.org/3/library/array.html>. The main functionality utilized in this lab was the ".append()" and ".remove()" functions. Appending puts an object at the end of the list. Remove either removes the last entry from the list or the specified entry as a parameter. These two functions allowed the creation of an addName() and removeName() function to be significantly easier. All other functions revolved around searching through the array/list for an object and manipulating it in some way. One significant difference between C++ and Python is data types. Python variables can be instantiated without a specified data type. This is advantageous because the variables are very versatile. But, when taking input from a text file or a user, the incorrect data type may be used.

Aside from minor changes in syntax and the inconsistent variable types, utilizing the array object in Python was significantly easier than previous labs. It does not feel as robust as Lab 5, but the functionality is the same. The Grammy winner text file is read in and a list is populated of the previous winners. The user is still able to add winners, remove winners, print the list, search by name, and exit the program. The user experience from lab to lab has remained the same as well, proving that there are multiple ways to provide the same user experience.



```
C:\WINDOWS\py.exe
1: Add artist
2: Remove artist
3: Print list
4: Search by name
5: Delete and exit
3
Name: Santana
Year: 2000
Name: Steely Dan
Year: 2001
Name: Various Artists (O Brother, Where Art Thou?)
Year: 2002
Name: Norah Jones
Year: 2003
Name: OutKast
Year: 2004
Name: Ray Charles
Year: 2005
Name: U2
Year: 2006
Name: Dixie Chicks
Year: 2007
Name: Herbie Hancock
Year: 2008
Name: Robert Plant and Alison Kraus
Year: 2009
Name: Taylor Swift
Year: 2010
Name: Arcade Fire
Year: 2011
Name: Adele
Year: 2012
Name: Mumford and Sons
Year: 2013
Name: Daft Punk
Year: 2014
Name: Beck
Year: 2015
Name: Taylor Swift
Year: 2016
Name: Adele
Year: 2017
Name: Bruno Mars
Year: 2018
Name: Kacey Musgraves
Year: 2019
1: Add artist
2: Remove artist
3: Print list
4: Search by name
5: Delete and exit

C:\WINDOWS\py.exe
1: Add artist
2: Remove artist
3: Print list
4: Search by name
5: Delete and exit
1
Enter artist name: Mike
Enter year: 2020
1: Add artist
2: Remove artist
3: Print list
4: Search by name
5: Delete and exit
2
Enter artist name: Adele
1: Add artist
2: Remove artist
3: Print list
4: Search by name
5: Delete and exit
2
Enter artist name: Taylor Swift
1: Add artist
2: Remove artist
3: Print list
4: Search by name
5: Delete and exit
2
Enter artist name: Bruno Mars
1: Add artist
2: Remove artist
3: Print list
4: Search by name
5: Delete and exit

C:\WINDOWS\py.exe
Name: Santana
Year: 2000
Name: Steely Dan
Year: 2001
Name: Various Artists (O Brother, Where Art Thou?)
Year: 2002
Name: Norah Jones
Year: 2003
Name: OutKast
Year: 2004
Name: Ray Charles
Year: 2005
Name: U2
Year: 2006
Name: Dixie Chicks
Year: 2007
Name: Herbie Hancock
Year: 2008
Name: Robert Plant and Alison Kraus
Year: 2009
Name: Arcade Fire
Year: 2010
Name: Mumford and Sons
Year: 2011
Name: Daft Punk
Year: 2012
Name: Beck
Year: 2013
Name: Kacey Musgraves
Year: 2014
Name: Mike
Year: 2015
1: Add artist
2: Remove artist
3: Print list
4: Search by name
5: Delete and exit

C:\WINDOWS\py.exe
1: Add artist
2: Remove artist
3: Print list
4: Search by name
5: Delete and exit
4
Enter artist name: Kacey Musgraves
Kacey Musgraves
2019
1: Add artist
2: Remove artist
3: Print list
4: Search by name
5: Delete and exit
```

Picture 2 and 3 are from the same run. Picture 2 shows the inputs from the user and picture 3 shows the output to the terminal.