

## CS 2316 Individual Homework 6 – GUIs

**Due: Thursday, February 26th, before 11:55pm**

**Out of 100 points**

File to submit: HW6.py

Students may only collaborate with fellow students currently taking CS 2316, the TA's, and the lecturer. Collaboration means talking through problems, assisting with debugging, explaining a concept, etc.

For Help:

- TA Helpdesk – Schedule posted on class website.
- Email TA's or use Piazza

Notes:

- **Don't forget to include the required comments and collaboration statement (as outlined on the course syllabus).**
- Do not wait until the last minute to do this assignment in case you run into problems
- Read the entire specifications document before starting this assignment.

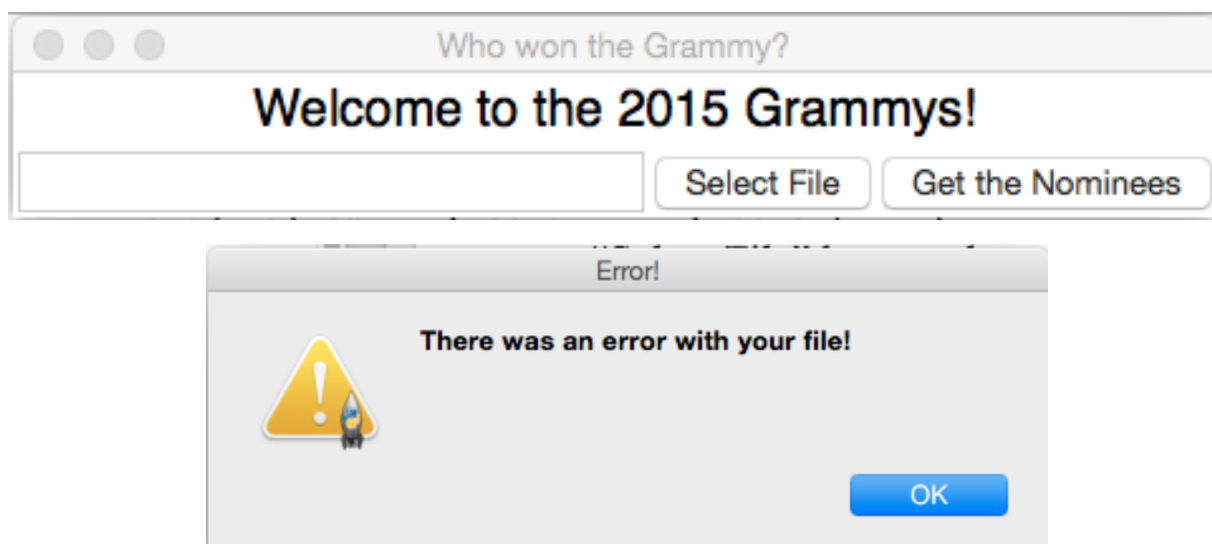
You will be creating a Graphical User Interface using Object Oriented Programming with Classes, which will be used to predict whether or not Kanye will come up on stage to intercept the presentation of a Grammy and give it to Beyonce.

## Create a class...

**class TSwift:**

### 1. `__init__`

This method will create the window to your GUI with a title bar reading “Who won the Grammy?” and a title within the window reading “Welcome to the 2015 Grammys!” in size 20, Helvetica font, centered. Underneath this title, there will be an entry (of length 30) and a “Select File” button allowing the user to select a file (look up `filedialog.askopenfilename()` to do this easily). To the right of the “Select File” button, there should be a “Get the Nominees” button. Once the user selects the file (titled “GrammyNominees2015.csv”, the entry should be filled with the filepath and be read only. When the user clicks the “Get the Nominees” button, the `getNominees` function should be called. If there is an error with the file, it will generate an error message (hint: use the `messagebox` module).



## 2. **getNominees**

This function will open the GrammyNominees2015.csv file and read it to format it into a dictionary: {NominationCategory: [Nominee, Nominee, Nominee....], etc.}. Please note that only the name of the artist should be listed, not the song titles or albums. If there is an error with the file, it will generate an error message (hint: use the messagebox module).

## 3. **showNominees**

This function will use the dictionary from getNominees and display all of the Nomination Categories using Radiobuttons. There should be a title, “Nomination Categories.” All the Radiobuttons should be in a black frame (width =1) (hint: Use the pack method, do not hard code each button). The user will then select a Radio button to pick a category. When the category is selected, all of the nominees from that category should appear to the right (hint: use labels). If another nomination category is selected, these labels should be deleted and those nominees should be displayed (you may use a helper function to do this if you prefer). To the right of these labels should be the option to enter a “Winner.” This will be done by having a label saying “Winner:” and a textbox to the right of it (length 20). To the right of this textbox, will be a button titled “Give them an award!”. This button will call the kanyeFactor function.

Who won the Grammy?

## Welcome to the 2015 Grammys!

/Users/meghnamahadevan/Docume

Nomination Categories

- ☒ Album of the Year
- ☐ Best Alternative Album
- ☐ Best Country Album
- ☐ Best Country Solo Performance
- ☐ Best Country Song
- ☐ Best Dance Recording
- ☐ Best Dance/Electronic Album
- ☐ Best Latin Pop Album
- ☐ Best Music Video
- ☐ Best New Artist
- ☐ Best Pop Solo Performance
- ☐ Best Pop Vocal Album
- ☐ Best R&B Performance
- ☐ Best R&B Song
- ☐ Best Rap Album
- ☐ Best Rap Performance
- ☐ Best Rap Song
- ☐ Best Reggae Album
- ☐ Best Rock Album
- ☐ Best Rock Song
- ☐ Rap/Sung Collaboration
- ☐ Record of the Year
- ☐ Song of the Year

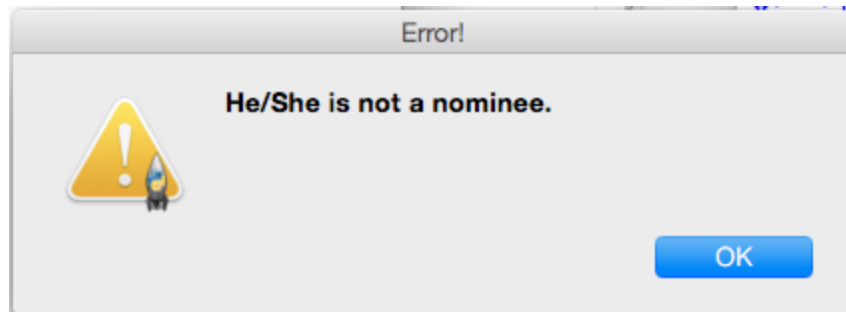
Beck  
Beyonce  
Ed Sheeran  
Pharrell  
am Smith

Winner:

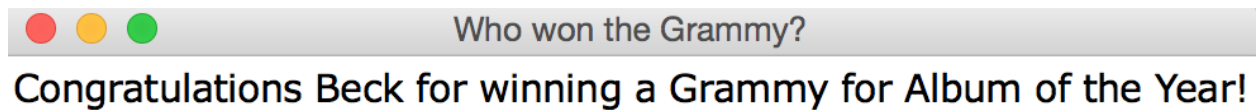
#### 4. **kanyeFactor**

This function will look at the text in the text box and three things:

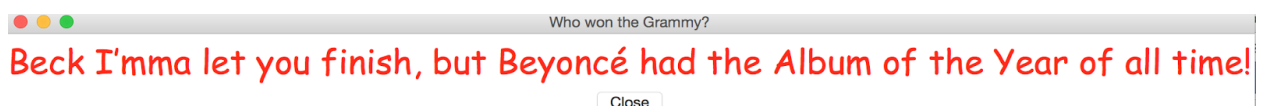
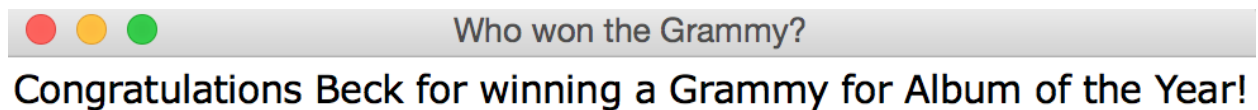
1. Check if the nominee entered in the text box is within the list of nominees. If not, it will generate an error message (hint: use the messagebox module).



2. If the person is in the list of nominees, it will generate a new window (hint: use the toplevel function) with the text “Congratulations (name of nominee) for winning a grammy for (name of category)!” using Verdana, size 15 font. When this window is destroyed, the original showNominees window should reappear.



- a. Then, if Beyoncé is in the list of the nominees, it will create a new window and hide the old “Congratulations” window and the original showNominees window. The text will read, “(name of nominee) I’mma let you finish, but Beyoncé had the (name of category) of all time!” using red Comic Sans MS, size 30 font. When this window is destroyed, the original showNominees window should reappear.



If you are feeling festive, feel free to add to the GUI (tip: Look up inserting photos in your GUI!), but make sure you include all the elements required. You can receive up to 5 points of extra credit, up to the discretion of your Grading TA :)

Don't forget to add the lines at the bottom of your code which create your window and run your program!

Feeling stressed or like you don't really understand GUI's?



Don't worry,

Check out these resources:

- [wiki.python.org/moin/TkInter](http://wiki.python.org/moin/TkInter)
- [docs.python.org/2/library/tkinter.html](http://docs.python.org/2/library/tkinter.html)
- <http://effbot.org/tkinterbook/>
- CS2316 Helpdesk

## **Rubric:**

Formatting of GUIs.....	50
Creation of initial window.....	10
Gridding/Packing of Layout.....	10
No hardcoding of Radio Buttons.....	10
Button functionality.....	10
Text formatting.....	10
CSV Reader.....	15
Showing of Nominees.....	15
(Must handle different Radiobutton clicking, else -10)	
Handling of all Errors.....	10
Topleveling of Windows.....	10
Extra points for Creativity.....	+5