FYS Sorting 2017-2018

Programmers:

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Summary: This program places first-year Wheaton students into their preferred first-year seminar course using their top eight FYS choices and any relevant demographics provided on the intake survey to evenly distribute the students among that year’s FYS courses.

**Directions:**

Part 1: The Code

1. Download the code FYSinfinity.cpp and save on your Desktop.
2. Open text editor to run code on. (We suggest Sublime Text for Mac or Linux computers and Code::Blocks for Windows computers).
3. Download Sublime at <https://www.sublimetext.com/3>

Download Code::Blocks at <http://www.codeblocks.org/downloads/>

1. Copy and paste the code into your text editor.

Part 2: The File

1. Get your csv file with the incoming freshmen class ready. Make sure the columns are in this order: last name, first name, ID, gender, learning disability, ethnicity, and choices 1-8.
2. Manually sort the file by date: <https://support.activenetwork.com/endurance/articles/en_US/Article/Sorting-A-CSV-File-In-Excel-1390519208129>
3. Delete extraneous columns. (I.E.- **Only** keep columns LAST\_NAME, FIRST\_NAME, ID, SEX, ALLMEDS, ETHN-RACE, FYS\_CRN1, FYS\_CRN2, FYS\_CRN3, FYS\_CRN4, FYS\_CRN5, FYS\_CRN6, FYS\_CRN7, FYS\_CRN8)
4. Save the csv file as a txt file, by choosing “Save As” and saving the file as a text file.

**NOTE: Ensure the txt file name does not have any spaces in it!**

1. Open the new text file. At the very end of the file, go to a new line, and add the word “DONE.” all in capitals and with a period. Save the text file.
2. Ensure the code and text file are both on the Desktop before running code.
3. In order to keep track of what each FYS class is, label each FYS class with its actual title elsewhere (on a piece of paper, in another document, etc). Each FYS will simply be represented by FYS number, not the CRN, in the FYS program code which will not tell the user what each course actually is.

Part 3: Changes to the Code from Year to Year

**DISCLAIMER: Lines mentioned are from 2017-2018 code (may change slightly from year to year)**

1. Open the code in your text editor (Sublime or Code::Blocks).
   1. For Code::Blocks ensure that you click on “GNU GCC Compiler” and then click “OK” when launching the text editor. Then click on File, New, Project…, click on Console Application, then hit Next>, click C++ and hit Next>, then type a project title name and choose a folder to store the project and hit Next>, finally hit Finish. Click on the project name in the left bar, then Sources, then the main.cpp. Copy and paste the code into this file. (Optional: Resave the file as ‘FYSinfinity.cpp’)
2. Starting at line, 18 there are three constants, CLASS\_MAX, NUM\_FYS\_CLASSES and MAX\_LEARNINGDIS. These numbers can be changed depending on the number of FYS courses being taught that year, the maximum number of students allowed in each class, and the maximum number of students with learning disabilities wanted in each class; change them as they apply year-to-year, respectively.
3. In this code we accounted for each FYS to have at least 4 people of each gender in each FYS no matter the class size of the FYS. In order to change this lines that look like 137-160 (shown below) would have to be added or deleted. Lines that look like 137 would start with the minimum number of students of that gender and go down to 0 (these numbers are the numbers subtracted from CLASS\_MAX). Lines that look like 138 and 142 would both have to start with 0 and go up to the minimum number of students of that gender wanted for each class.

if(FYSclass[choice].size() == (CLASS\_MAX - 4)){

if(info.gender == "M" && FYSclassInfo[choice].femaleCount == 0){

FYSclassInfo[0].nextChoice(tempchoice,info); choice=FYSclassInfo[0].determineChoice(tempchoice);

}

else if(info.gender == "F" && FYSclassInfo[choice].maleCount == 0){

FYSclassInfo[0].nextChoice(tempchoice,info); choice=FYSclassInfo[0].determineChoice(tempchoice);

}

else{

if(info.gender == "M")

FYSclassInfo[choice].maleCount++;

else{

FYSclassInfo[choice].femaleCount++;

}

if(learnDis){

FYSclassInfo[choice].learningDisCount++;

}

found = true;

}

}

1. This code accounts for students making 8 choices when picking FYS classes they would like to take. In order to change number of choices there are multiple places the code would need to be changed.

* On line 29, another choice variable would have to be added or one of the existing variables would have to be deleted
* At lines 85-92 another getline(inFP, info.choice, '\n'); would have to be added at the end or one of these lines would have to be deleted (**ENSURE the last of these getline lines has ‘\n’ as the delimiter and the others have ‘\t’!**) Do the same at lines 115-122.
* At line 326 in the nextChoice method, you would have to delete or add one of the else if lines going from the old choice to the new corresponding choice number. (**DO NOT CHANGE THE else STATEMENT on lines 341& 342**)

else if (tempchoice == info.choice8)

tempchoice = info.choice9;

1. For the FYS CRNs on lines 350-461, change them as they apply year-to-year within the determineChoice method. Each CRN is in double quotation marks so change the CRN but LEAVE THE NEW CRN WITHIN QUOTATION MARKS. **NOTE: DO NOT DELETE THIS LINE EVER!:**

else{

choice = -1; //-1 refers to the unassigned stack class

return choice;

}

1. If there are more FYS classes in years to come add a line to the determineChoice method starting on line 345 that looks like this for EACH additional FYS class:

else if(tempchoice == "10529"){

choice = 28;

}

* Make sure that the choice numbers range from the number 0 to one less than the number indicating however many FYS classes (example: if NUM\_FYS\_CLASSES = 30, then the last choice in an else if statement should be 29)
* The last choice in the default else statement at the end of this method should always be -1
* If there are less FYS classes in years to come, you can delete the extraneous lines in the determineChoice method (that look like the lines above).
* **ENSURE THAT choice EQUALS THE NUMBER YOU LABELED THAT SPECIFIC FYS CLASS IN PART 2, STEP 5 (tempchoice will equal the CRN of that FYS).**

Part 4: Using Sublime to Run the Code

1. Open terminal. (Click on icon or search in search bar)
2. Type in “cd Desktop” and click enter
3. Type in “ls” and click enter (gives access to everything that is on Desktop)
4. Type in “g++ FYSinfinity.cpp” and click enter
5. Type in “./a.out” and click enter
6. Now the code should prompt you to type in the .txt file you created in Part 2
7. Click enter and you are Done!

Part 4 ½: Using Code::Blocks to Run the Code

1. Run the code simply by hitting the yellow gear and green triangle button labeled “Build and run” underneath “Fortran” and “wxSmith”

Output

The code will output a csv (Excel) file called “FYSresults.csv” in the same location as the FYS program and the original txt file (on the Desktop). **Extra students who cannot be sorted by the code (if they didn’t fill out all of their desired FYS preferences or for some other reason) will be placed in a separate category at the bottom of the file and will have to be sorted manually.**

The output file will list the first name, last name, Wheaton ID, gender, whether or not the student has a learning disability, and the ethnicity of each student in each FYS course (each row will contain one student’s information). The leftmost column displays each FYS course represented with its respective number.

Note: Running the code will create a new csv file each time, and will overwrite the previous one. If you wish to save it, you must save it as a separate file.