**Project:** Harvest X (Aggie Source Monthly Food Distribution Report to Second Harvest)

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**Project Description:** Each month the aggie source food pantry has to report the number of individuals and households served to the Second Harvest food pantry. The current process requires merging data across multiple spreadsheets and using several excel formulas to create the final result. This project should write an application to perform these steps automatically using the Excel worksheets as input. (Note: this project might be easier to done in Python). Two sample worksheets are provided with fictitious data.

**Project Requirements:** Read in the 2 attached excel files. One has the actual guest check-in (participation history) and one has the application that students had to enter to use the pantry. The program needs to compare the participation history information with their address to determine the following information:

|  |  |
| --- | --- |
| **Info to report** | **Rules for calculation** |
| Unduplicated households | Count the unique number of names in the participation history spreadsheet. For each unique name, determine if there are people that have the same address and if they live off-campus (not in off-campus student apartment). If there are people in the list with the same address and they live off campus, count them as one household. All other unique names with unique addresses are counted as one household. Report the total. |
| Unduplicated Individuals | Count the unique number of names in the participation history. The total number is the unduplicated individuals. |
| Total households | This is the total participation history (even if a person from a household was served multiple times). |
| Total individuals | This is the total number of people (even if a person was served multiple times). This number will equal Total households. |

This information is summarized at a monthly level.

### **GETTING STARTED:**

**Languages/Tools:** Python, Excel, PyCharm, Google, GitHub

**Task Manager:** [Google Keep](https://keep.google.com/)

*The integrated development environment (IDE) is the software that you use to code. The Recommended IDE for this project is PyCharm but anyone (such as Spyder) will do just fine.*

**PyCharm Installation Instructions:**

1. Go to [Jet Brains for Students](https://www.jetbrains.com/shop/eform/students) and register using your aggie email.
2. Verify your email
3. Download PyCharm
4. Detailed Windows Instructions [here](https://www.jetbrains.com/help/pycharm/installation-guide.html?section=Windows)
5. Detailed Mac Instructions [here](http://exponential.io/blog/2015/02/10/install-pycharm-on-ubuntu-mac-os-x/)

*The latest version of Python must be downloaded. Python 3.7. You do not have to download this to your personal laptop, but that means you will only be able to use the Engineering Building computers.*

**Latest Python Installation Instructions:**

1. Go to <https://www.python.org/downloads/>
2. Choose your respective operating system
3. Download

*To run Python Scripts (aka python files aka python code) in PyCharm, you must configure PyCharm. It is not too complicated, but if done wrong it could mess up Python or PyCharm. Google ‘*[*configure pycharm to run python*](https://www.google.com/search?q=configure+pycharm+to+run+python&rlz=1C1CHBF_enUS814US814&oq=configure+pycharm+to+run+python&aqs=chrome..69i57j0.607j0j4&sourceid=chrome&ie=UTF-8)*’ if you want to try to do this on your own.*

**Installing GitHub:**

1. Go to [GitHub](https://github.com/) and create an account
2. Go to [GitHub Desktop](https://desktop.github.com/)
3. Follow installation instructions
4. Sign in to GitHub Desktop
5. Make sure to accept the (harvest-x) invitation, which should be in your aggie email

**How To Run:**

1. Set up your server to use CGI, simple Google search
2. After Cloning or Downloading, navigate to the index.html file
3. Upload the “AppFileee” to Application File and the “Part-File(version1)” to the Participation FIle
4. Hit Submit
5. Magic!

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### **METHODOLOGY:**

***How Each Report Category Is Defined:***

**Total Individuals/Total households:** All account IDs

**Unduplicated Individuals:** Unique account IDs

**Unduplicated households:** Off-campus with same address, any on campus address for each unique submission ID

***PsuedoCode (english instructions) Execution:***

**Total Households/Individuals (Participation File):**

1. Import the participation excel file
2. Extract Account IDs
3. Count number of IDs

**Unduplicated Individuals (Participation File):**

1. Import the participation excel files
2. Extract Account IDs
3. Count unique number of IDs

**Unduplicated households (Application File & Participation File):**

1. Create a dictionary of submission IDs (key) and Addresses (value)
2. Find all unique submission IDs, then find unique address (cities at the moment) from that list, this gives total number of unique households - Application File
3. The existing values will equal to one household
4. Compare against total individuals/households from participation file