# IPO Charts

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| Input | Process | Output |
| Student ID(Valid) | Login (Student):  System takes User ID, querying the local database for a match, if match is found output true Boolean returned and adds User to Edumate authentication stack. | Boolean Value |
| Admin ID(Valid) | Login (Admin):  System takes User ID, querying the local database for a match, if match is found output true Boolean returned and adds User to Edumate authentication stack. | Boolean Value |
| Invalid ID | If no User ID match is found when querying the local database system will check for time since database update, if it is outside a certain time frame the system will re-download and subsequently re-authenticate. If authentication still fails a False Boolean is returned | Boolean Value |
| User Input, Student ID | Check Calendar:  System will take the stored User ID, and query the Edumate calendar data base with said User ID. Returned 2 dimensional array is then represented as a table in the GUI | Calendar (2 Dimensional Array/GUI Element) |
| User Input, Admin ID | Get Raw Data:  System will query either local database or Edumate database (Depending on future decisions) for data on number of students signed in. This data will then be returned as an array of integers which will the be represented as a table in the GUI | Raw Data Table (Array of Integers/GUI Element) |
| User Input, Admin ID | Shutdown:  User input, as part of the GUI, will run the shutdown function. This function will invoke a terminal command causing the system to shut down closing the python process and any other process running on the machine. No data is returned | N/A |
| User Input, Admin ID | Exit:  User input, as part of the GUI, will run the Tkinter terminate function, closing that python process. No data is returned | N/A |
| User Input, Admin ID | Trouble Shooting List:  User input, as part of the GUI, will change the frame to one in which the PNG image of the trouble shooting list is initialized. This frame will be returned as a GUI Element | Trouble Shooting List (PNG/GUI Frame) |