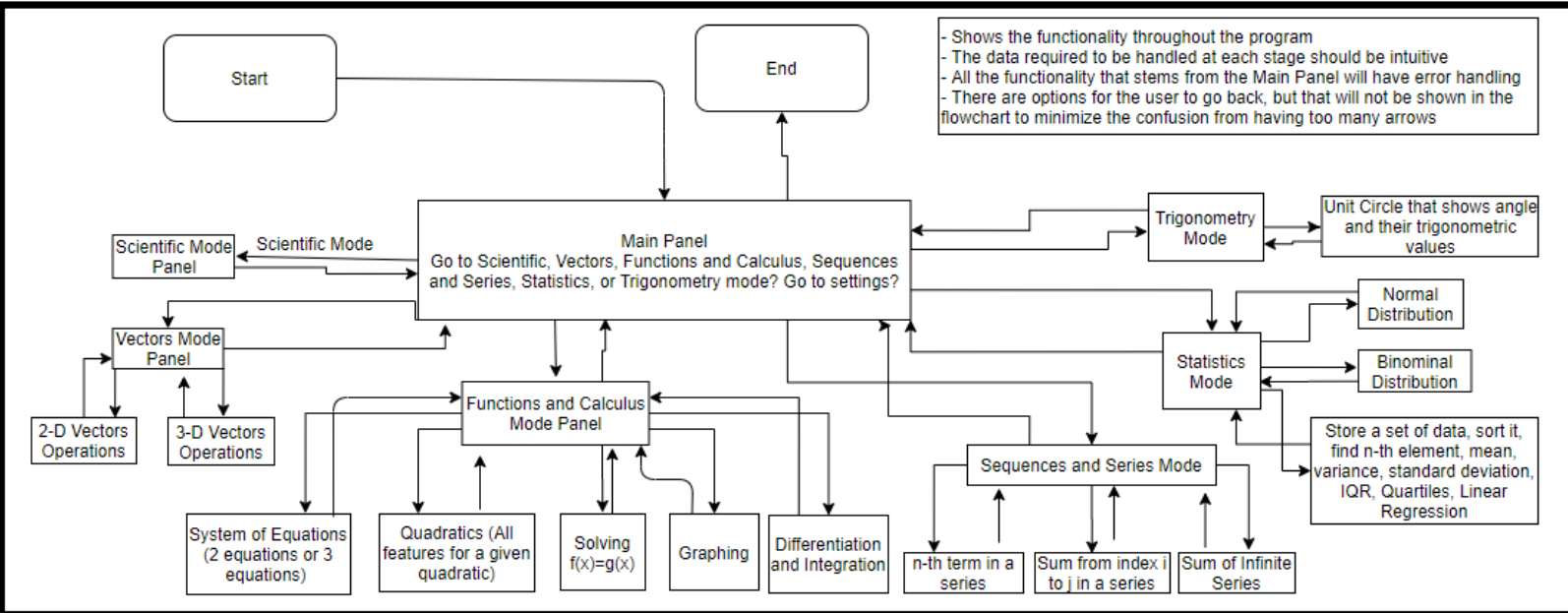
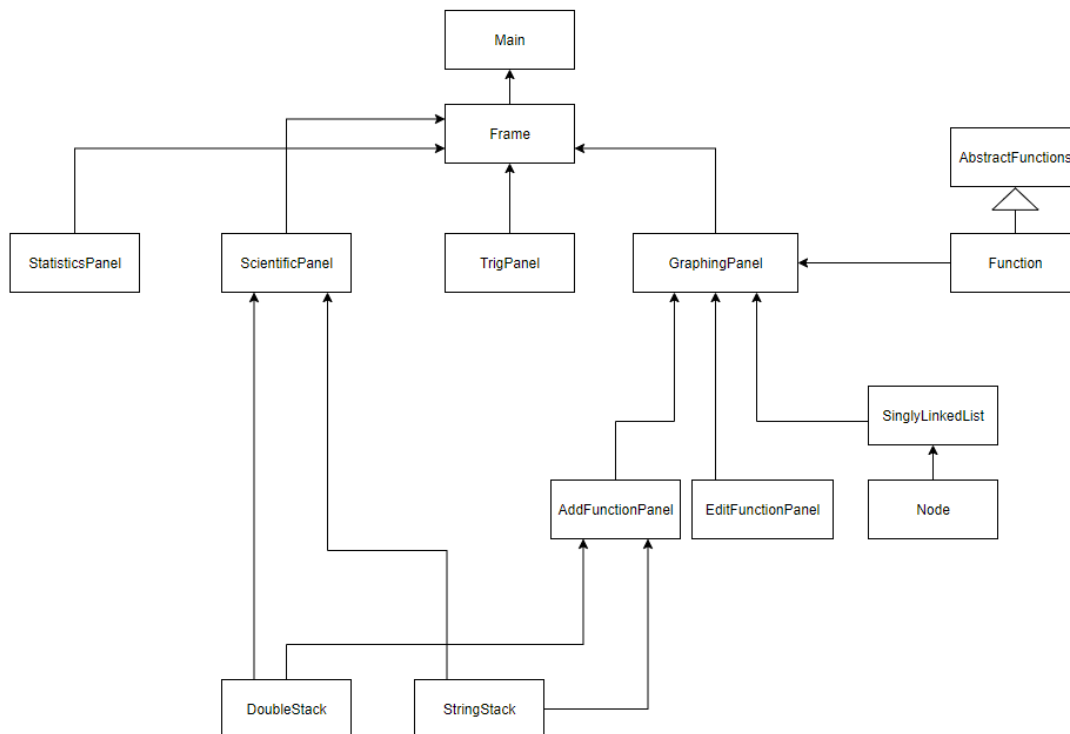


## Criterion B: Design

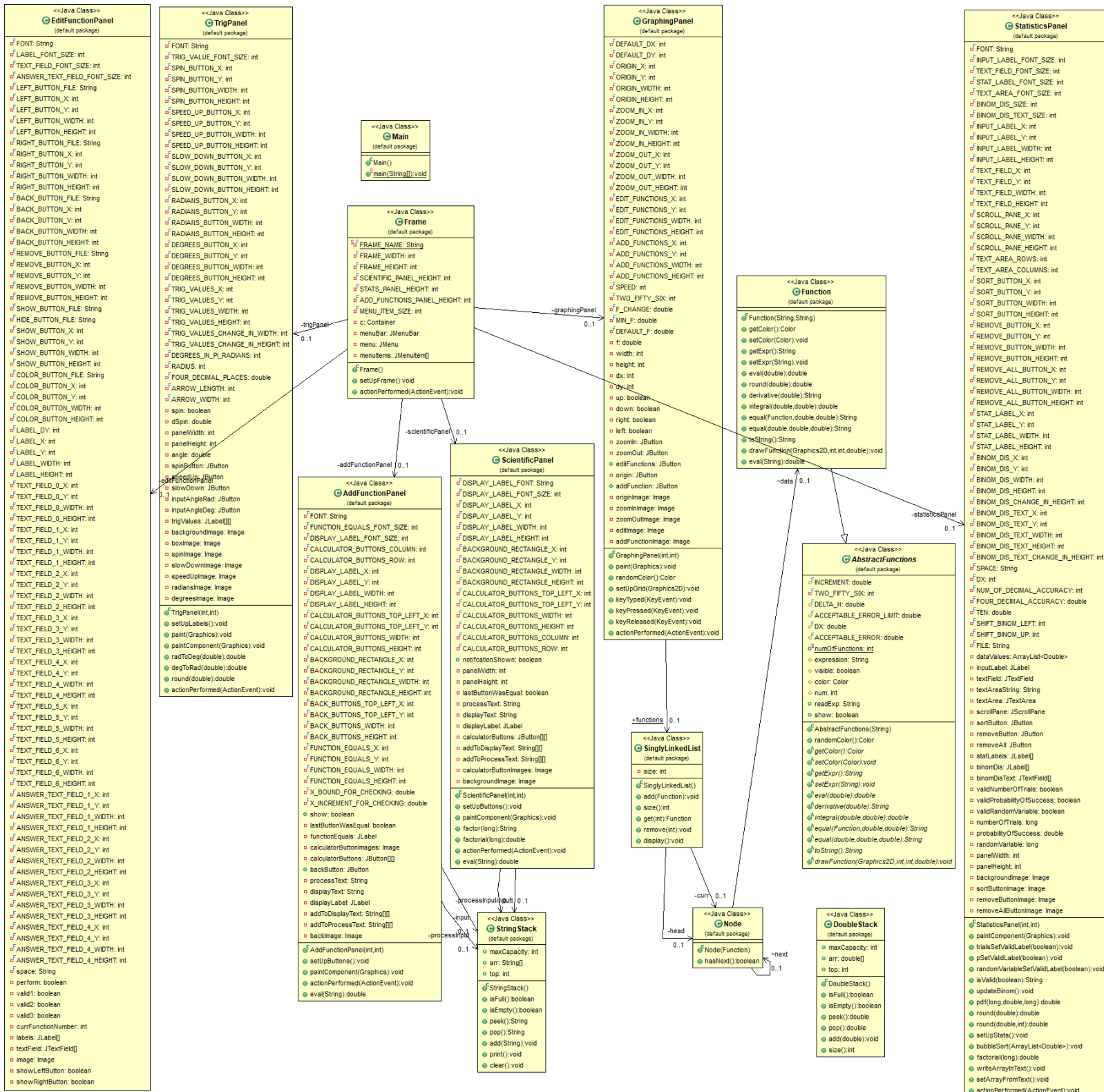
### Processing and Data Flow Chart



### Development: Overall Class Structure



### UML Diagram



### Record Of Tasks

Functionality	Comments	Time (Days)
Welcome Panel, Login, Sign-up, Main Panel, Settings	Users have to login with their own login information, use of file I/O will be the hardest part of this section. Passwords will be encrypted to enhance privacy.	3
Scientific Mode Panel	This will take a lot of time to input all the functionalities of a basic scientific calculator. Also, converting from a string to a mathematical equation for java will be difficult.	2
Vectors Panel, Sequences and Series Panel, Statistics Panel	Despite having many parts, these panels will be easy to implement and thus can all be quickly coded. The hardest part will be the GUI.	2
Functions and Calculus Panel	Graphing the functions will be the hardest part of this section. Additionally, integration and differentiating will be difficult. Overall, this is one of the hardest sections of the entire program, thus 3 days will be allocated to this section.	3
Trigonometry Panel	This panel is relatively easy and can be easily implemented.	1
Testing and Debugging and Video	These 2 days will be used to test the program, looking for any errors and correcting them. The methods of testing will be explained below.	2

## Testing Plan

Functionality	Testing Method
Login and Sign-Up	Enter different login and sign up combinations, seeing if the information will be saved, encrypted, accessible. Also, the login information will be checked to pass the username and password requirements.
Main Panel	The JButtons will be tested to properly lead from one panel to another. Also, a JMenu will be added which will be tested by seeing if they indeed properly take users from one panel to another.
Scientific Panel	BEDMAS will be checked for, ease of use will be tested, and the buttons will all be tested so that they perform their required tasks.
Vectors Panel	The operations such as cross product, dot product, adding and subtracting will be checked by hand to ensure they agree with the program.
Statistics and Series Panel	T1-84 Calculator will be used to check the data
Functions and Calculus	Different functions will be inputted. Solutions will also be calculated by hand to determine if they work. Also, graphs will be zoomed in and out to see how the GUI changes.

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