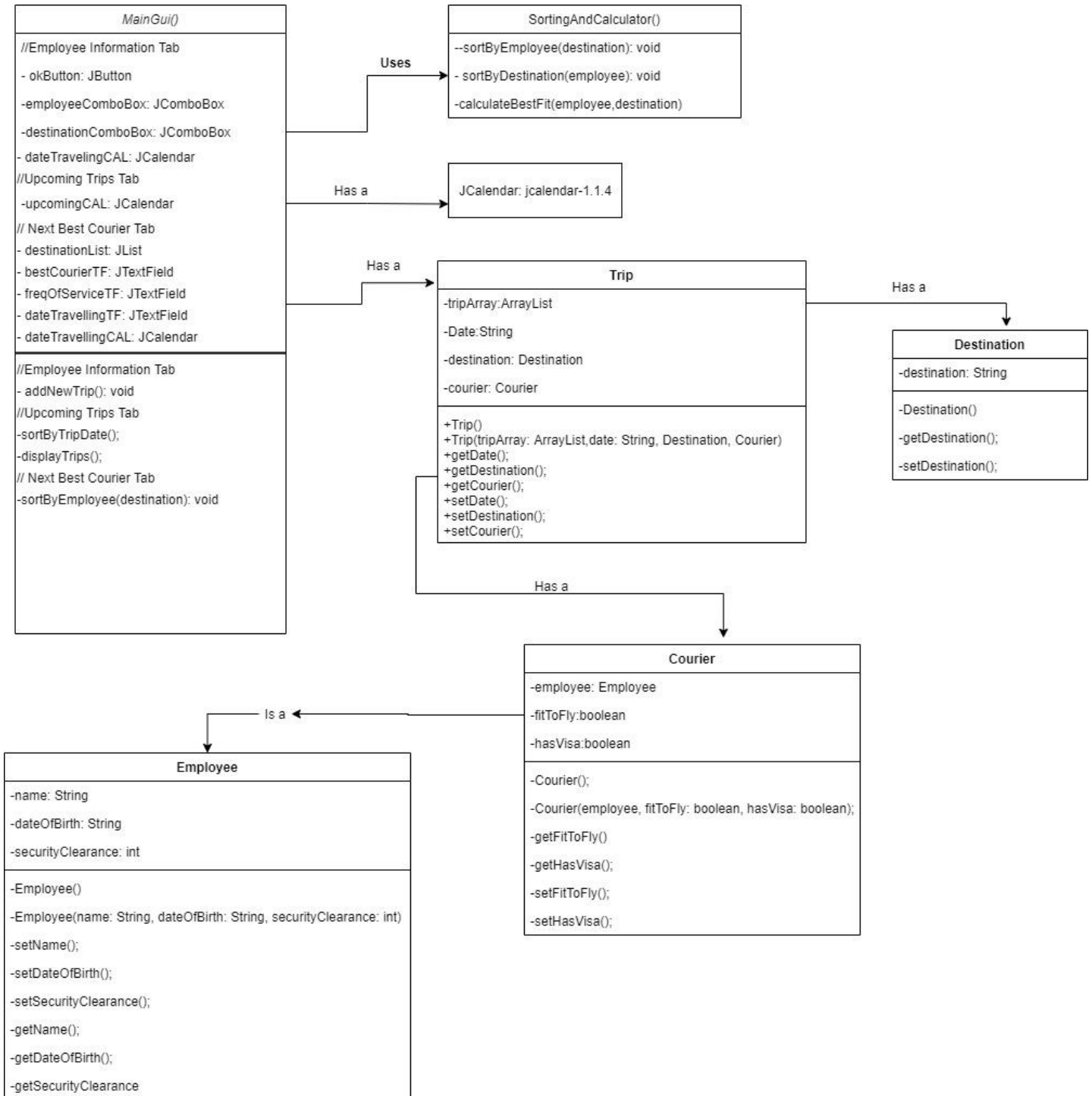


Criterion B Design:**Inputs and Outputs:**

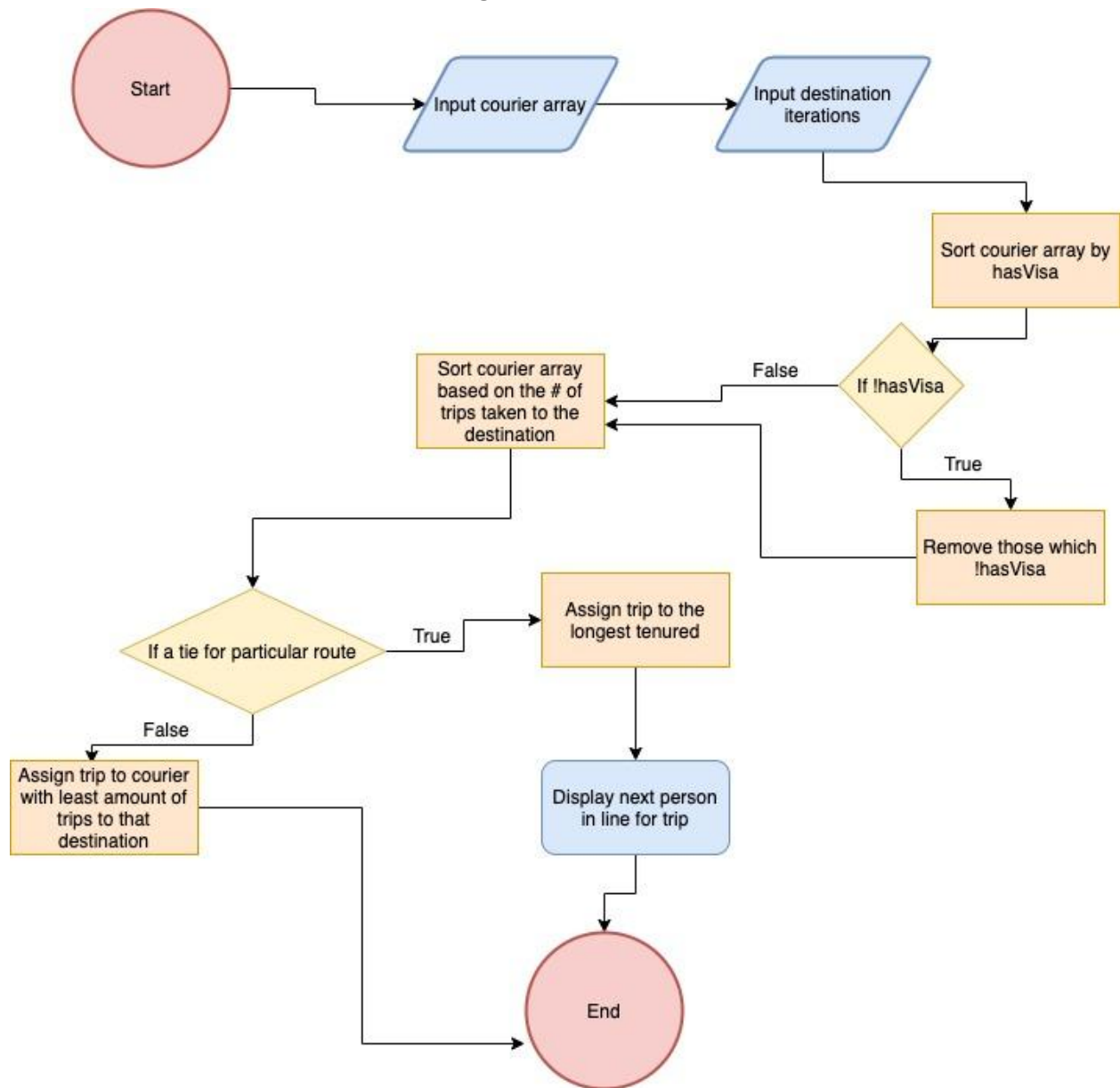
Input	Data Type	Normal Range	Examples
Employee	String(Last, First)	1-10 Employee names	"Rogers, Tony"
Destination	String	1-30 Destinations	"Jakarta, JAK"
Set Date Travelling	String (mm/dd/yyyy)	Any Date in the year	"03/12/2020"
Set Month View	String	Any Range of 3 months	"November, December, January"
Set Year View	String	Any year from 2020 and above	"2021"

Output	Data Type	Normal Range	Examples
Next Best Courier	String (Last, First)	1-10 Employees	"Rogers, Tony"
Dates Travelling	String (Last, First, Destination, Airport Identifier)	Within the 3 months the user has chosen	"Rogers, Tony, Melbourne, MEL"
Frequency of Post Serviced	Int (Times Per Month)	0< Frequency of Post Serviced	3

Class Diagram:



Flowchart for the trip determination algorithm:



Algorithms:

Main trip determination algorithm:

- Import courier array
- Import destination
- Sort courier array by hasVisa
 - If the courier doesn't have visa, remove them from the array
 - Else finish sort
- Sort courier array by the number of times they have travelled to that destination
- If there is a conflict where 2 couriers that have the least amount of trips have gone the same amount of time, take the longest tenured.
- Else take the courier with the least amount of trips to the destination.

Sort by hasVisa:

- Import courier array
- For loop for the length of the courier array start
 - Get hasVisa data from the first courier
 - If hasVisa
 - Evaluate next
 - Else
 - remove from courier array
 - Evaluate next courier
- End for loop

Sort by courier for a specified destination:

- Import courier array
- Import specified destination
- Initialized "sorted" = false
- Loop while sorted = false
 - For loop the length of the courier array
 - Compare the times courier at 1st instance has gone to destination to the 2nd courier
 - If courier 2 has more trips than courier 1
 - Courier 2 set courier 1
 - Courier 1 set courier 2
 - For loop counter +1
 - Sorted = false
 - Else for loop counter +1
 - Sorted = true

- End for loop
- End while loop

Testing Plan:

Screenshots are used to better visualize all of the error testing possibilities:

The screenshot shows a window titled 'File Edit Help' with three tabs: 'Employee Information', 'Upcoming Trips', and 'Next Best Courier'. The 'Next Best Courier' tab is active. The window contains the following elements:

- Choose Destination:** A list box containing 'Item 1', 'Item 2', 'Item 3', 'Item 4', and 'Item 5'.
- Best Courier For The Job:** A text input field labeled 'Courier Name'.
- Frequency of post service:** A text input field labeled 'Frequency'.
- Date of next trip:** A date picker showing 'February' and '2021'.
- Calendar:** A calendar grid for February 2021. The days of the week are 'Sun', 'Mon', 'Tue', 'Wed', 'Thu', 'Fri', and 'Sat'. The dates are 1 through 28. The date '15' is highlighted in red.
- Calculate:** A button at the bottom left.

The screenshot shows a window titled 'File Edit Help' with three tabs: 'Employee Information', 'Upcoming Trips', and 'Next Best Courier'. The 'Employee Information' tab is active. The window contains the following elements:

- Input Employee:** A dropdown menu showing 'Item 1'.
- Input Destination:** A dropdown menu showing 'Item 1'.
- Input Date Travelled or Travelling:** A date picker showing 'February' and '2021'.
- Calendar:** A calendar grid for February 2021. The days of the week are 'Sun', 'Mon', 'Tue', 'Wed', 'Thu', 'Fri', and 'Sat'. The dates are 1 through 28. The date '15' is highlighted in red.
- Done:** A button at the bottom center.

File Edit Help

Employee Information Upcoming Trips Next Best Courier

February 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

Refresh

Action to Test	Method of Testing/Expected Result
Inputting new or past trips	Press the “done” button/ everything should revert to their default values
Refresh upcoming trips calendar	Press refresh button/ Trips for indicated month and year should be shown on the calendar below.
Calculating best courier for a trip	Press the “Calculate” button after choosing a destination/ Courier name, frequency of post service, and next trip date should all be outputted.
Calculating best courier for a trip when two lowest couriers have the same counters	Press “Calculate” button/ The courier with the longest date tenured should be displayed

Word Count: 42