

NNguyen_Pr4

Pseudocode

```
1. getNumOfEmployees()
    • Input: None
    • Output: employees (integer)
    • Display "How many employees are in the company?"
    • Read employees from the user
    • Return employees

2. getTotalDaysAbsent(employees)
    • Input: employees (integer)
    • Output: totalDaysMissed (integer)
    • Initialize totalDaysMissed to 0
    • Open "employeeAbsences.txt" for writing
    • Write "EMPLOYEE ABSENCE REPORT" to the file
    • Loop for each employee i from 1 to employees
        • Read employeeID and daysMissed from the user
        • Validate daysMissed to ensure it is not negative
        • Write employeeID and daysMissed to "employeeAbsences.txt"
        • Update totalDaysMissed by adding daysMissed
    • Write "The employees employees were absent a total of totalDaysMissed days." to the file
    • Close "employeeAbsences.txt"
    • Return totalDaysMissed

3. calculateAvgDaysAbsent(employees, totalDaysMissed)
    • Input: employees (integer), totalDaysMissed (integer)
    • Output: avgDaysAbsent (double)
    • Calculate avgDaysAbsent as totalDaysMissed / employees
    • Return avgDaysAbsent

4. main()
    • Input: None
    • Output: None
    • Declare variables: employees (integer), totalDaysMissed (integer), avgDaysAbsent (double)
    • Display "Calculate the average numbers of days a company's employees have been absent."
    • Call getNumOfEmployees() and store the result in employees
    • Call getTotalDaysAbsent(employees) and store the result in totalDaysMissed
    • Call calculateAvgDaysAbsent(employees, totalDaysMissed) and store the result in avgDaysAbsent
    • Open "employeeAbsences.txt" for appending
    • Write "The average number of days absent is avgDaysAbsent " to the file
    • Write "Class: CMSC140 CRN 40375", "Assignment: Project 4", "Programmer: Nicholas Nguyen", "Due Date: 07/24/2023" to the file
    • Close "employeeAbsences.txt"

5. Call main() to start the program.
```

Test plan table

Cases	Input	Expected Output	Actual Output	Did the test pass?
Case 1	5 1234 3 22 0 667 5 4 11 9876 1	EMPLOYEE ABSENCE REPORT 1234 3 22 0 667 5 5 4 9876 1 The 5 employees were absent a total of 20 days. The average number of days absent is 4 Class: CMSC140 CRN 40375 Assignment: Project 4 Programmer: Nicholas Nguyen Due Date: 07/24/2023	EMPLOYEE ABSENCE REPORT 1234 3 22 0 667 5 5 4 9876 1 The 5 employees were absent a total of 20 days. The average number of days absent is 4 Class: CMSC140 CRN 40375 Assignment: Project 4 Programmer: Nicholas Nguyen Due Date: 07/24/2023	Y
Case 2	3 33 -4	The number of days must not be negative. Please re-enter the number of days this employee was absent:	The number of days must not be negative. Please re-enter the number of days this employee was absent:	Y

Cases

Case 1

employeeAbsences.txt

EMPLOYEE ABSENCE REPORT

1234	3
22	0
667	5
4	11
9876	1

The 5 employees were absent a total of 20 days.
The average number of days absent is 4

Class: CMSC140 CRN 40375

Assignment: Project 4

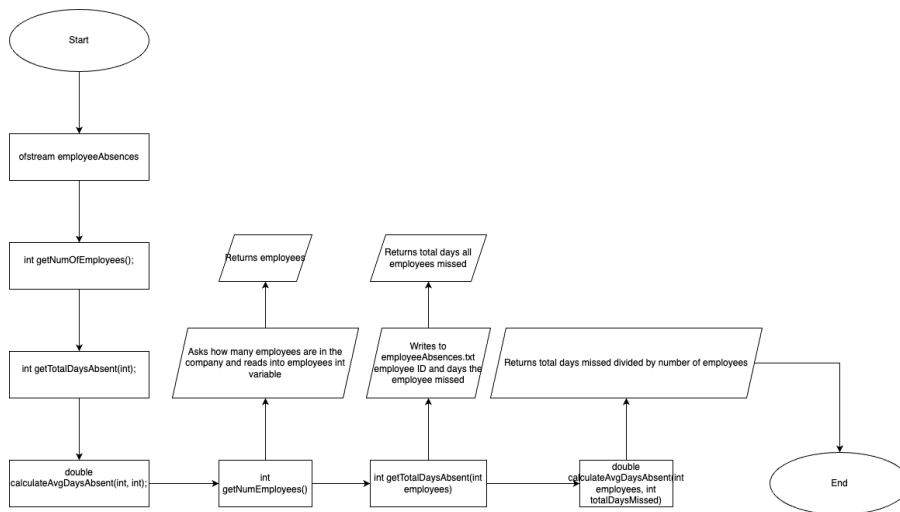
Programmer: Nicholas Nguyen

Due Date: 07/24/2023

Case 2

The number of days must not be negative.
Please re-enter the number of days this employee was absent:

Flowchart



Questions to answer

🕒 Write about your Learning Experience, highlighting your lessons learned and learning experience from working on this project.

My learning experience with this project was pretty cool and I enjoyed coding it. I got some more experience with dealing with the fstream library. To me, it's pretty cool to know that I can code something that can read in user input and write it to a text file.

🕒 What have you learned?

Coding this project, I learned that it's possible to declare prototypes for functions, preventing issues with calling functions before they are declared. Doing so also provides me with a reminder of all the functions I need to implement later on in my code.

🕒 What did you struggle with?

I struggled with working with all the variables needed in this project. I debated on whether or not to use global variables, only to realize that that probably wouldn't be the best solution. Instead, inside each function (including the main function), I declared the variables I needed only. I also struggled with figuring out how to get all the text to output to the `employeeAbsences.txt` file (some was missing previously when I ran the code).

🕒 What would you do differently on your next project?

N/A

🕒 What parts of this assignment were you successful with, and what parts (if any) were you not successful with?

I had a bit of trouble with the flowchart since I didn't really know how I should map things out. However, I feel like the code was pretty straightforward and simple for me.

🕒 Provide any additional resources/links/videos you used to while working on this assignment/project.

N/A