1. Your names, CSUF-supplied email address(es), and an indication that the submission is for project 1.

Report for Project 1

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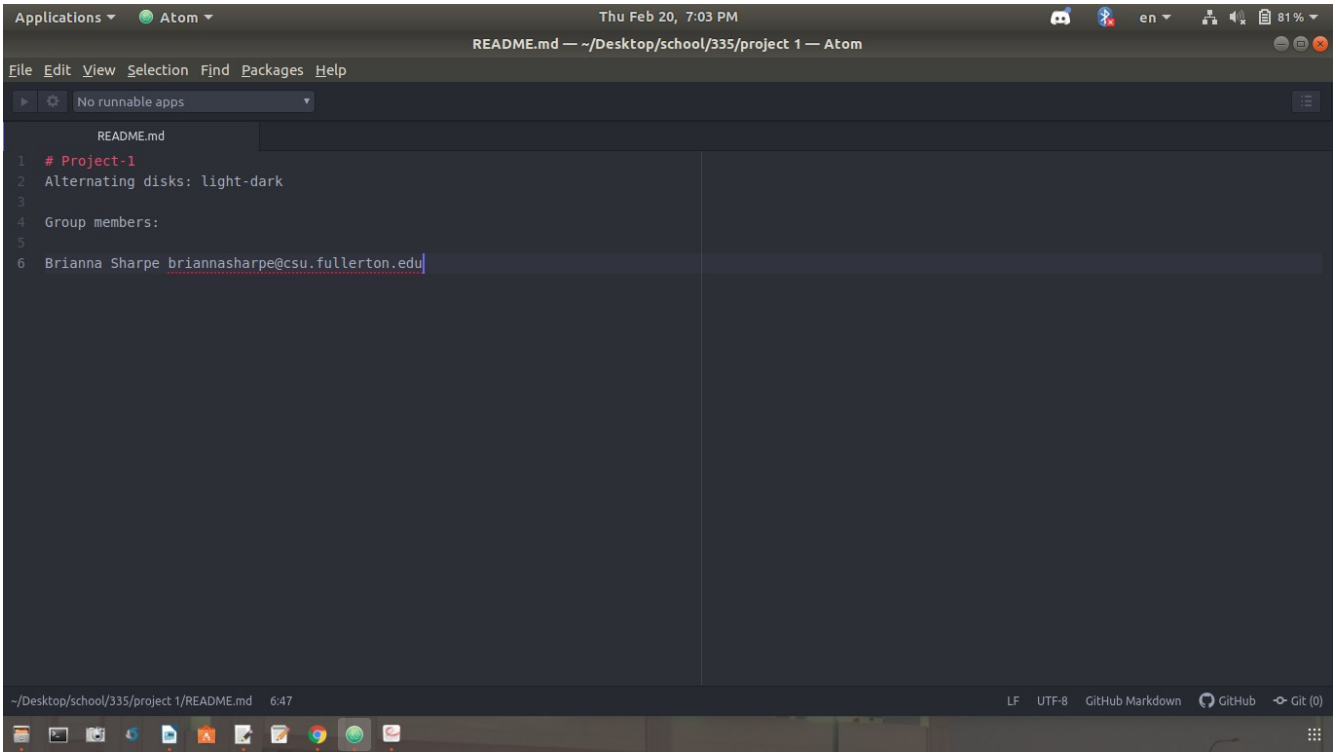
2. A full-screen screenshot, inside Tuffix, showing the Atom editor or the editor you used, with your group member names show clearly as below. One way to make your names appear in Atom is to simply open your README.md.



3. Two pseudocode listings, for the two algorithms.

```
sort_left_to_right():
        assert
        after = before
        int swaps = 0

        while !sorted
                for i=1 to n do
                        if i == dark && i+1 == light
                                swap()
                                swap++

sort_lawnmower():
        assert
        after = before
        int swaps = 0

        while !sorted
                (forwards)
                for i=1 to n-1 do
                        if i == dark && i+1 == light
                                swap()
                                swap++

                (backwards)
                for i=n-1 to 1 do
                        if i-1 == dark && i == light
                                swap()
                                swap++
```

4. A brief proof argument for the time complexity of your two algorithms.

```
sort_left_to_right():
        assert -1 t.u
        after = before -1 t.u
        int swaps = 0 -1 t.u

        while !sorted
                for i=1 to n do -n times
                        if i == dark && i+1 == light -3 t.u
                                swap() -5 t.u
                                swap++ -1 t.u

sort_lawnmower():
        assert -1 t.u
        after = before -1 t.u
        int swaps = 0 -1 t.u

        while !sorted
                (forwards)
                for i=1 to n-1 do  -n-1 times
                        if i == dark && i+1 == light -3 t.u
                                swap() -5 t.u
                                swap++ -1 t.u

                (backwards)
                for i=n-1 to 1 do  -n+1 times
                        if i-1 == dark && i == light -3 t.u
                                swap() -5 t.u
                                swap++ -1 t.u
```