CPSC 335-02 Project 1 Report

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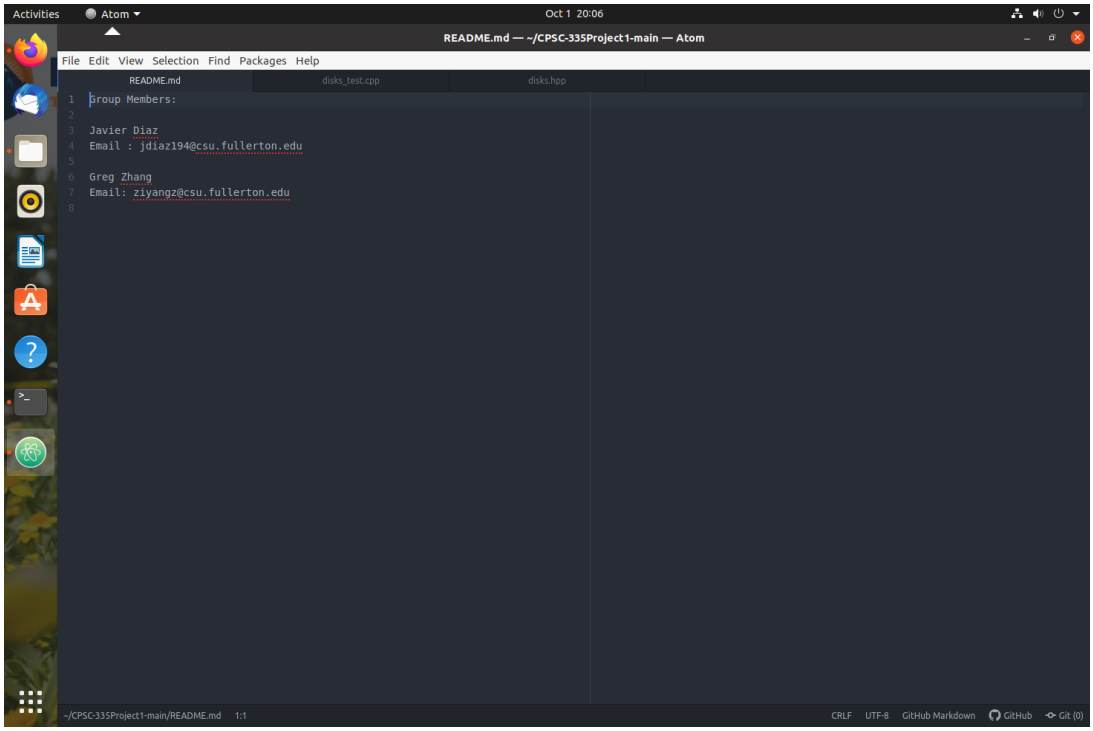
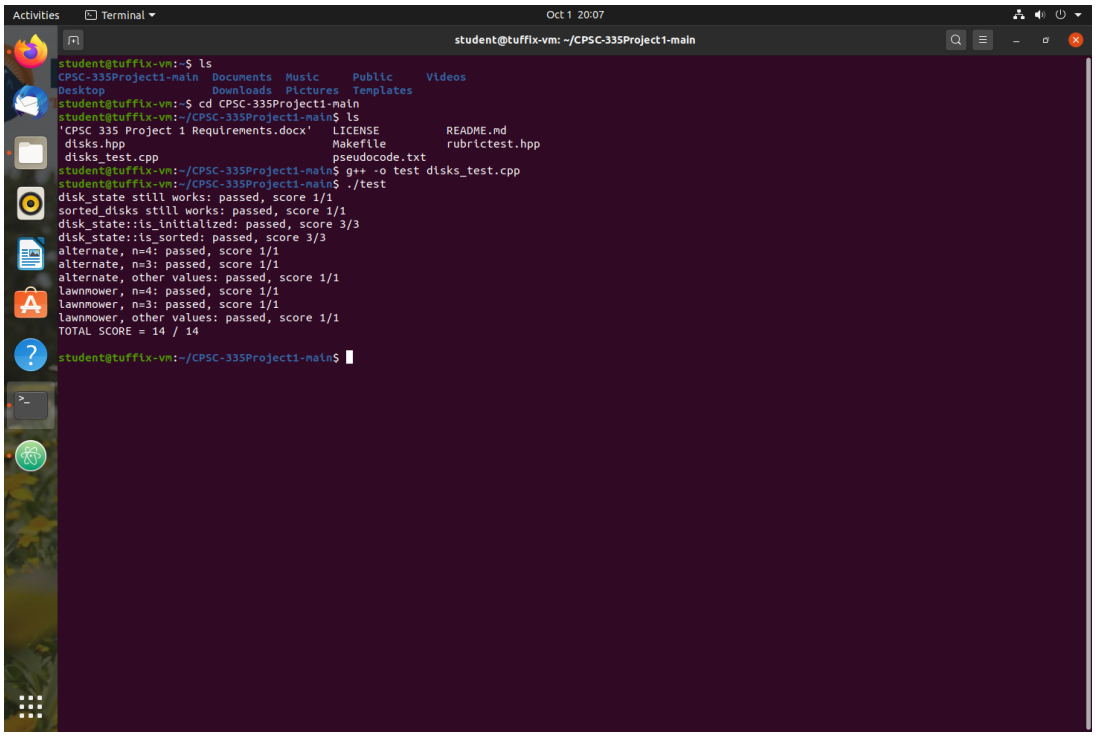




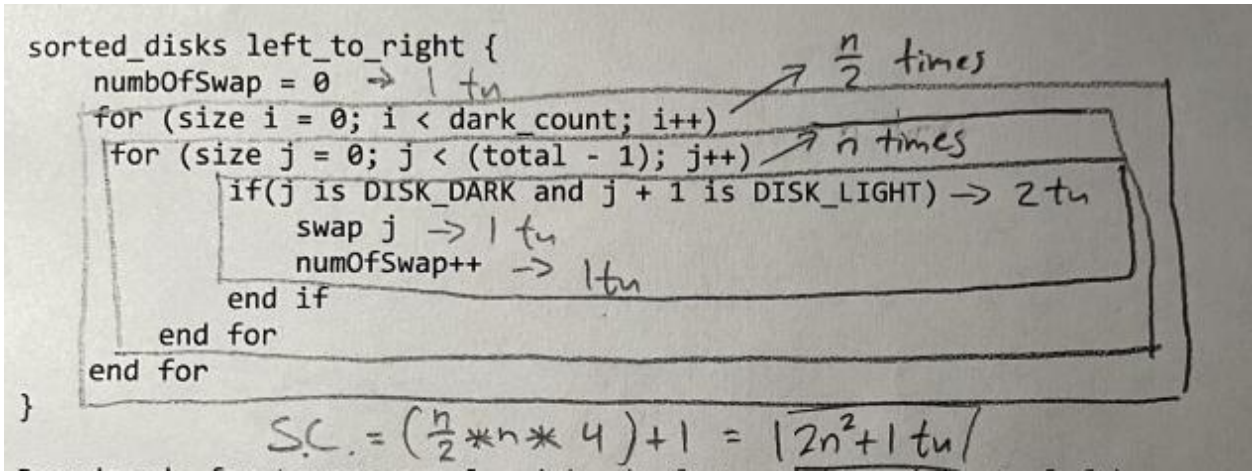
Pseudocode for sort_alternate (Left to Right Algorithm):

```
sorted_disks left_to_right {
    numOfSwap = 0
    for (size i = 0; i < dark_count; i++)
     for (size j = 0; j < (total - 1); j++)
          if(j is DISK_DARK and j + 1 is DISK_LIGHT)
             swap j
             numOfSwap++
          end if
        end for
    end for
}
```

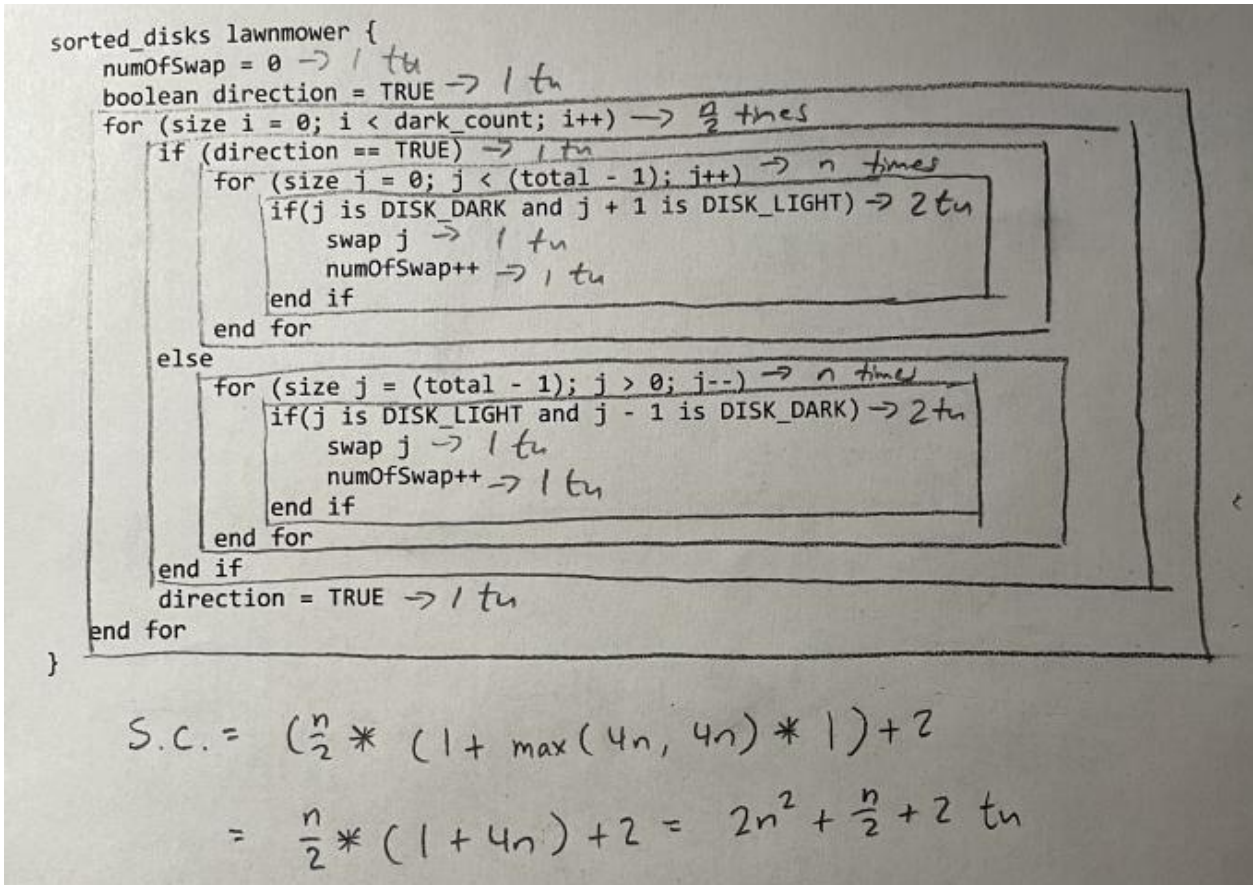
Pseudocode for Lawnmower algorithm (Left to right, right to left):

```
sorted_disks lawnmower {
    numOfSwap = 0
    boolean direction = TRUE
    for (size i = 0; i < dark_count; i++)
        if (direction == TRUE)
            for (size j = 0; j < (total - 1); j++)
                if(j is DISK_DARK and j + 1 is DISK_LIGHT)
                    swap j
                    numOfSwap++
                end if
            end for
        else
            for (size j = (total - 1); j > 0; j--)
                if(j is DISK_LIGHT and j - 1 is DISK_DARK)
                    swap j
                    numOfSwap++
                end if
            end for
        end if
        direction = TRUE
   end for
}
```

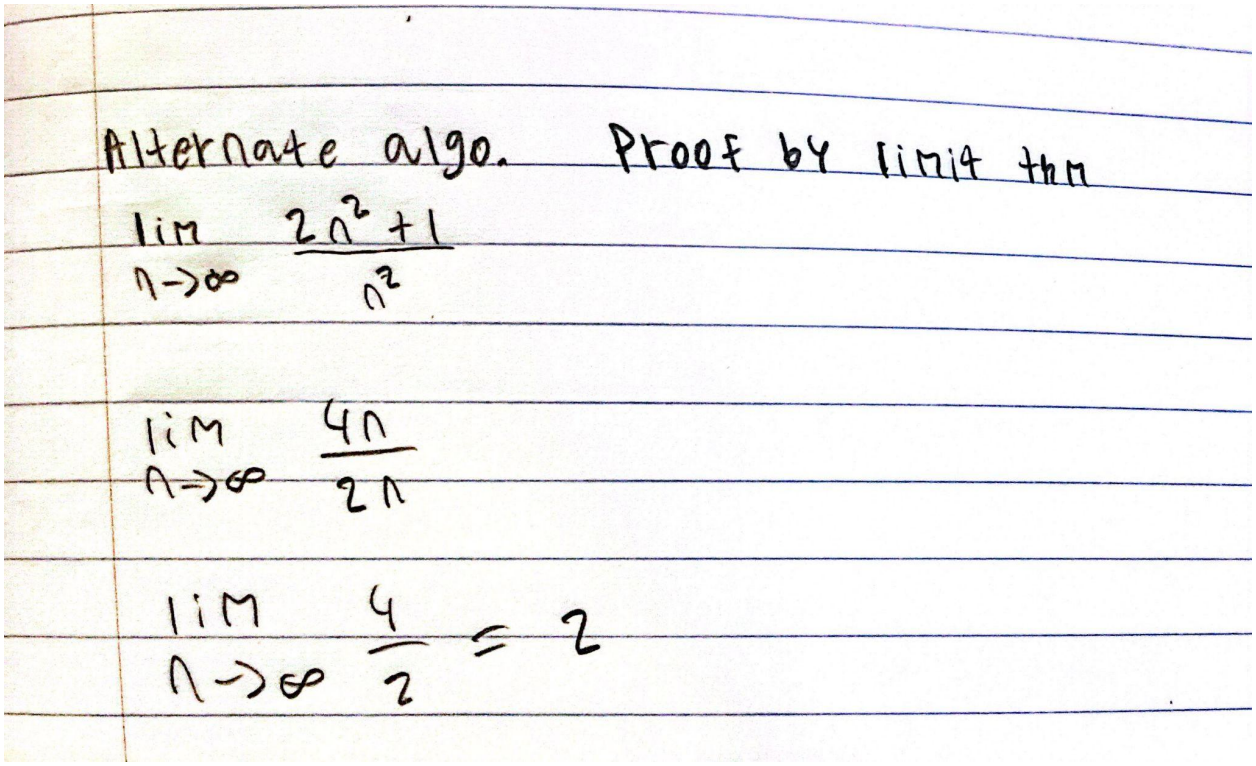
Step Count Alternate Algorithm:



Step Count Lawnmower Algorithm:



Alternate Algo proof argument



Lawnmower Algo proof argument