

# **CSE 241**

## **ASSIGNMENT HOMEWORK 7**

### **REPORT**

In my programme, firstly for to make a faster runnable version I used List, Queue and TreeMap structures. Because in skyline problem we can make faster operations with their methods.

In code, firstly we read our text file using reading methods of java and we save that readed datas into a List structure which is a integer array list. While we save data, we find position, height and end of line position. After that, we are starting to create skylines in another method. While we create skyline, we have to find start position of line and heights.

Our instance variables of Skyline Class save corner datas, start position checker and height datas. We save that values into integer array in our CreateSkyline method. Then we have to find maximum height to draw it in GUI. Then we sort that our integer array based on height. We find maximum width to draw clearly too.

After that sort operation, we have to find GUI's maximum width. We find it and save it. We create a TreeMap. We use a TreeMap because in researches I realized that it gives us log time performance. Then we declare a variable that saves previous height in queue.

Then we check if it is start of skyline then add the height to map and if it is end of skyline then decrement or remove the height from map. Then we find current height.

We compare if current height is not equal to previous height then we add it into our output. And we make it our previous height. Before doing that we add previous height into output too. Finally we ended finding output coordinations. Then we return it.

Lastly, we have output coordinations and we have to write it into output file. For that we create a writer buffer and open the output file. We make a loop and we print them into file. After that we close file.

We print our coordinations so we need to draw in GUI. While drawing GUI, we need to check size of window's height, width and pixel. Firstly we check for width size, then we check height and then we set props. Finally we draw and show it in a window.

While creating all that functions, I used more efficiency types, classes and objects. They gave me log time performance and speed.

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