GIT Department of Computer Engineering
CSE 222/505 - Spring 2022
Homework #1 Report

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1. SYSTEM REQUIREMENTS

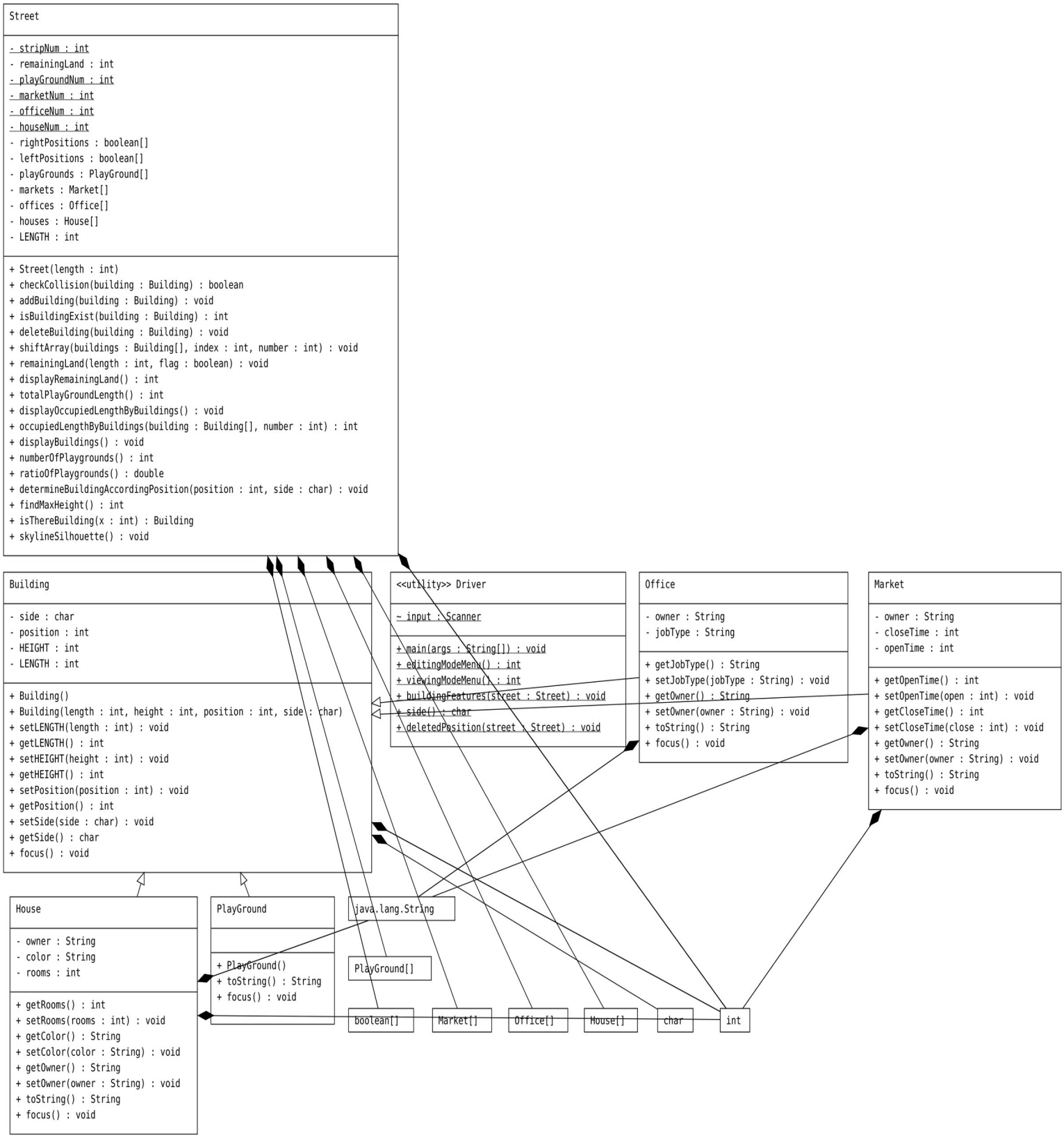
Java version:

openjdk 17.0.1 2021-10-19

OpenJDK Runtime Environment (build 17.0.1+12-Ubuntu-120.04)

OpenJDK 64-Bit Server VM (build 17.0.1+12-Ubuntu-120.04, mixed mode, sharing)

2. **CLASS DIAGRAM**



3. PROBLEM SOLUTION APPROACH

First of all, since everything on a street is actually building-based, I determined the building class as the base class for the house market, office and playground classes. Later on, these four classes were extended. A street class was created, where I could keep the objects of all classes together. The basic structure of the software was created. The objects of the house market, office and playground classes were kept in the street class. If a house type object is to be added, it is added after checking whether there is enough space on the street before adding it to the house array. If an object is to be deleted in the house tour, before deleting it from the array, it is deleted from the house array by shifting the elements of the array after checking the location information of the building to be deleted and checking whether such a building exists.

4. TEST CASES

Test cases are completed driver function.

5. RUNNING AND RESULTS

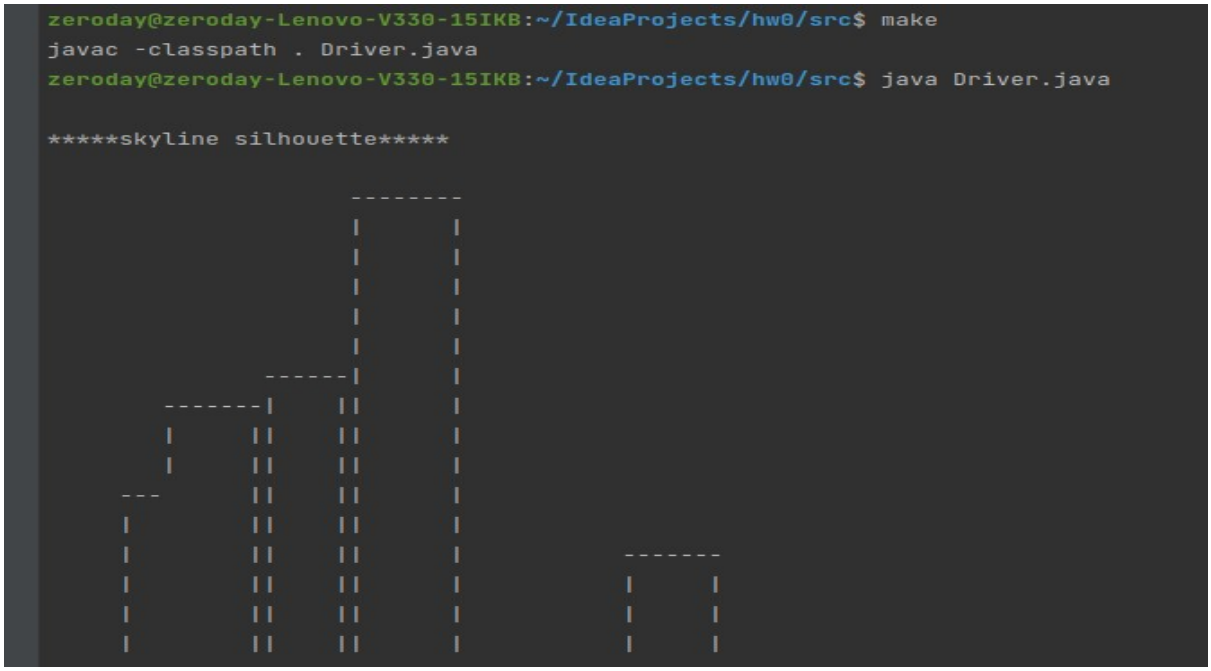
Running commands:

1) make

2) java Driver.java

Results:

Skyline silhouette:



Remaining length of land on street:

```
Remaining length of land on street: 62
```

Display buildings on the street:

```
(Position, Length, Height, Side)-> (5, 5, 5, L)
(Position, Length, Height, Side)-> (8, 6, 8, R)
(Position, Length, Height, Side)-> (21, 7, 15, L)
(Position, Length, Height, Side)-> (40, 6, 3, R)
(Position, Length, Height, Side)-> (15, 5, 9, L)
(Position, Length, Height, Side)-> (30, 9, 0, L)
```

Display the total length of street occupied by the markets, houses or offices:

```
Total length of street occupied by the houses is 11
Total length of street occupied by the markets is 5
Total length of street occupied by the offices is 13
```

Display the number and ratio of lenth of playgrounds in the street:

```
Number of playgrounds in the street is 1
Ratio of length of playgrounds in the street is 0.090000
```

Different types of information are presented to the user on focusing on a building:

```
merve's house
Software's office
Market that closes at 22
Playground that have length 9
```

Skyline silhouette after deleting a building:

```
*****skyline silhouette after deleting building that position 15*****

                  --------
                  |      |
                  |      |
                  |      |
                  |      |
                  |      |
                  |      |
                  |      |
       -------    |      |
       |     |    |      |
       |     |    |      |
    ---      |    |      |
    |        |    |      |
    |        |    |      |          -------
    |        |    |      |          |     |
    |        |    |      |          |     |
    |        |    |      |          |     |
```

```
--------------Welcome to City Planning Software---------------


1) editing mode
2) viewing mode
0) exit
select one-> 1

1) add building
2) delete building
select one-> 1

What type of building that will add?
1) House
2) Office
3) Market
4) Playground
Please select-> 7

error...

What type of building that will add?
1) House
2) Office
3) Market
4) Playground
Please select-> 1

length -> 5
position -> 44
height -> 5
color -> red
owner -> merve
rooms -> 3
side -> R

1) editing mode
```

```
5) display the skyline silhouette of the street.
select one-> 5
```

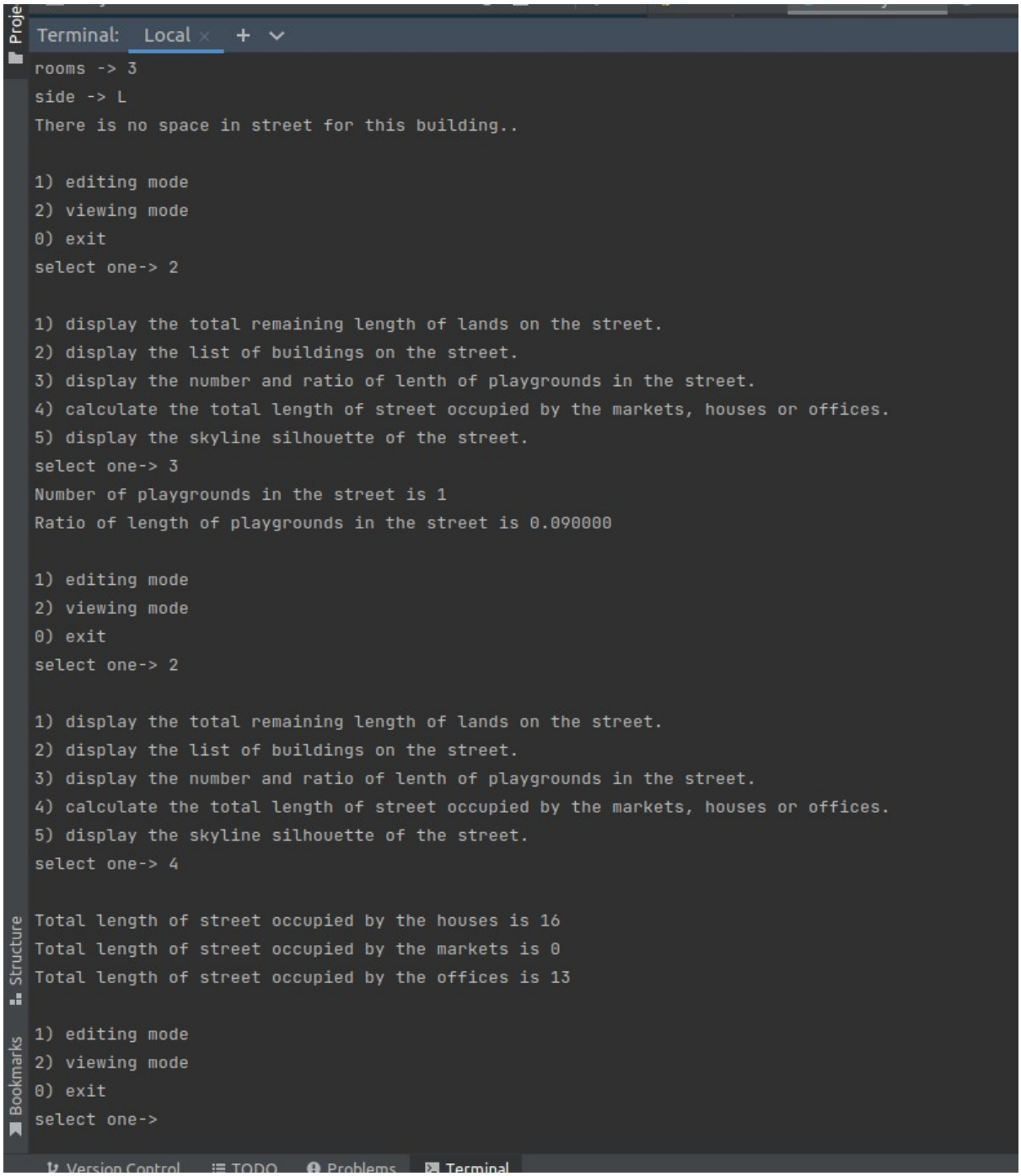
```
1) editing mode
2) viewing mode
0) exit
select one-> 1

1) add building
2) delete building
select one-> 2

Please enter that will delete position-> 9

Please enter that will delete side-> R
There is no such building...
Building is deleted successfully..

1) editing mode
2) viewing mode
0) exit
select one->
```


Terminal: Local
rooms -> 3
side -> L
There is no space in street for this building..
1) editing mode
2) viewing mode
0) exit
select one-> 2
1) display the total remaining length of lands on the street.
2) display the list of buildings on the street.
3) display the number and ratio of lenth of playgrounds in the street.
4) calculate the total length of street occupied by the markets, houses or offices.
5) display the skyline silhouette of the street.
select one-> 3
Number of playgrounds in the street is 1
Ratio of length of playgrounds in the street is 0.090000
1) editing mode
2) viewing mode
0) exit
select one-> 2
1) display the total remaining length of lands on the street.
2) display the list of buildings on the street.
3) display the number and ratio of lenth of playgrounds in the street.
4) calculate the total length of street occupied by the markets, houses or offices.
5) display the skyline silhouette of the street.
select one-> 4
Total length of street occupied by the houses is 16
Total length of street occupied by the markets is 0
Total length of street occupied by the offices is 13
1) editing mode
2) viewing mode
0) exit
select one->
Structure
Bookmarks
Version Control
TODO
Problems
Terminal

Terminal: Local

```
select one-> 4

Total length of street occupied by the houses is 16
Total length of street occupied by the markets is 0
Total length of street occupied by the offices is 13

1) editing mode
2) viewing mode
0) exit
select one-> 2

1) display the total remaining length of lands on the street.
2) display the list of buildings on the street.
3) display the number and ratio of lenth of playgrounds in the street.
4) calculate the total length of street occupied by the markets, houses or offices.
5) display the skyline silhouette of the street.
select one-> 5
```

```
1) editing mode
2) viewing mode
0) exit
select one->
```