

## Screenshots of all significant output

### Menu

*ProactiveSD* - public static void main(String[] args)

The menu of locations set in *LocationDatabase* is displayed and the user is prompted to enter the ID of the location/building the user would like to enter.

```
Locations available:
L1: Lotus's Semenyih
L2: Secret Recipe Semenyih
L3: KFC Semenyih
L4: McDonald Semenyih
L5: Tealive Semenyih

Please enter the ID of the location/building you would like to enter into:
```

1. After entering a valid location ID, the user is prompted to enter the available space out of the total area in meters of the chosen location. The location's maximum number of visitors allowed is calculated, the current number of visitors is generated randomly, and the complete location details are displayed.

```
Please enter the ID of the location/building you would like to enter into: 1

Please enter the available space out of total area in meters.
Length: 75
Width: 95

L1: Lotus's Semenyih
Area: 7125.0 m²
Average time per person: 55.0 minutes
Max capacity: 445 visitors
Current number of visitors: 356 visitors
```

2. If the user inputs a location ID that is not available in the database, the user is prompted to enter the location details manually. Again, the location's maximum number of visitors allowed is calculated, the current number of visitors is generated randomly, and the complete location details are displayed.

```
Please enter the ID of the location/building you would like to enter into: 6

Location not available in database.
Enter the location info here.
Location name: Gucci

Please enter the available space out of total area in meters.
Length: 55
Width: 25

Average time spent per person: 40

L6: Gucci
Area: 1375.0 m²
Average time per person: 40.0 minutes
Max capacity: 85 visitors
Current number of visitors: 11 visitors
```

3. If the user input is not an integer, the user will be notified to input a positive integer as a location ID and the menu will be displayed again.

```
Locations available:
L1: Lotus's Semenyih
L2: Secret Recipe Semenyih
L3: KFC Semenyih
L4: McDonald Semenyih
L5: Tealive Semenyih

Please enter the ID of the location/building you would like to enter into: a
Please enter a positive integer as location ID.

Locations available:
L1: Lotus's Semenyih
L2: Secret Recipe Semenyih
L3: KFC Semenyih
L4: McDonald Semenyih
L5: Tealive Semenyih

Please enter the ID of the location/building you would like to enter into: █
```

### **Maximum Capacity**

***ProactiveSD*** - public static void confirmation(ProactiveSD obj)

If the maximum capacity of the location is reached, entry is denied and the average time spent per person will be displayed. The user will be asked if they would like to wait and the user should respond by entering “yes” or “no”.

1. If the user inputs “yes”, the user will be allowed entry once the waiting time is over.

```
L1: Lotus's Semenyih
Area: 212.0 m²
Average time per person: 55.0 minutes
Max capacity: 13 visitors
Current number of visitors: 13 visitors

Entry denied. Max capacity reached.
Average time spent per person is 55.0 minutes.
Would you like to wait? (yes/no)
yes

Waiting time is over. You may enter.
```

2. If the user inputs “no”, the menu will be displayed and the user will be prompted to choose a different location.

```
L1: Lotus's Semenyih
Area: 212.0 m²
Average time per person: 55.0 minutes
Max capacity: 13 visitors
Current number of visitors: 13 visitors

Entry denied. Max capacity reached.
Average time spent per person is 55.0 minutes.
Would you like to wait? (yes/no)
no

Please choose a different location.

Locations available:
L1: Lotus's Semenyih
L2: Secret Recipe Semenyih
L3: KFC Semenyih
L4: McDonald Semenyih
L5: Tealive Semenyih

Please enter the ID of the location/building you would like to enter into: █
```

3. If the user enters an input other than “yes” or “no”, the user will be prompted for their input again until they input either “yes” or “no”.

```
L1: Lotus's Semenyih
Area: 212.0 m²
Average time per person: 55.0 minutes
Max capacity: 13 visitors
Current number of visitors: 13 visitors

Entry denied. Max capacity reached.
Average time spent per person is 55.0 minutes.
Would you like to wait? (yes/no)
1
Please enter 'yes' or 'no'.
```

If the maximum capacity of the location has not been reached, the user will be allowed entry and a welcome message will be displayed.

```
L1: Lotus's Semenyih
Area: 212.0 m²
Average time per person: 55.0 minutes
Max capacity: 13 visitors
Current number of visitors: 1 visitors

Welcome!
```

### After entering a location/building

**ProactiveSD** - public static void guidelines(ProactiveSD obj, Scanner myIn)

**SocialBubble** - public static void distancing(ProactiveSD obj, double north, double south, double east, double west)

Once entry is allowed, another menu is displayed to ask the user to input distance from other people in all four directions: North, South, East, West.

1. If all distances are 2 meters or more, an appreciation message is displayed.

```
To ensure proactive social distancing is practiced, please input your distance in meters from other people in all four directions.
North: 2
South: 2
East: 2
West: 2
Thank you for adhering to the social distancing guidelines. Enjoy your time.
PS C:\Users\lisah\OneDrive\Documents\Java>
```

2. If all distances are less than 2 meters, it is impossible for the user to practice social distancing. The user is advised to move to an uncrowded area.

```
To ensure proactive social distancing is practiced, please input your distance in meters from other people in all four directions.  
North: 1  
South: 1  
East: 1  
West: 1  
Unable to practice social distancing. Please move to an uncrowded area.
```

3. If any of the entered distances is less than 2 meters, the distance of how much the user should move away to practice social distancing is displayed.

```
To ensure proactive social distancing is practiced, please input your distance in meters from other people in all four directions.  
North: 3  
South: 1  
East: 4  
West: 1  
Please move 1.0 m to the front.  
Please move 1.0 m to the right.  
PS C:\Users\lisah\OneDrive\Documents\Java>
```

## Casual Contact

If any of the entered distance in **ProactiveSD** - public static void guidelines(ProactiveSD obj, Scanner myIn) is less than 2 meters, the user will be alerted if the user is in close contact with a close contact (casual contact).

**SocialBubble** - public static void close\_contact(ProactiveSD obj)

1. If the user is in close contact with a close contact, the user's status is set as casual contact and the user's information will be displayed.

```
You are in a close contact of a close contact.  
20297507 Lisa Ho Yen Xin  
L1: Lotus's Semenyih  
17/03/2022 20:50:18  
Status: Casual Contact  
PS C:\Users\lisah\OneDrive\Documents\Java>
```

2. Otherwise, the user is given a gentle reminder to adhere to the social distancing guidelines.

```
Please be mindful of the social distancing guidelines. Always maintain a minimum distance of 2 meters with others.  
Your health is our priority. Thank you.  
PS C:\Users\lisah\OneDrive\Documents\Java>
```