

Haskell Project Report

Training Phase

- Main 1 | **statsList**

generate a list of statistics according to the content of the training list in the FurnitureResources.hs file

- Helper 1-a | **statsListHelper** rooms

generate a list of statistics according to the content of rooms

- Main 2 | **findFurnitureUpdate** a b c stats

updates stats with the new furniture relation (a, b, c) which means that b was found at position c with respect to a.

- Helper 2-a | **updateFrequency** b c stats

updates the stats list of a certain furniture with the new record which states that b was found at position c with respect to that furniture. stats includes both right and below stats.

- Helper 2-b | **updateFrequencyHelper** b c stats

updates the right or below stats list of a certain furniture with the new record which states that b was found at position c with respect to that furniture. stats represents either right or below stats.

- Helper 2-c | **insert** x L

inserts the element x in a descendingly sorted list L.

- Helper 2-d | **sortFreq** L

sorts the frequency list L descendingly using insertion sort.

- Main 3 | **generate** room currentStats

examines room and updates currentStats.

- Helper 3-a | **generateRight** rows currentStats

examines the rows and updates the right stats in currentStats.

- Helper 3-b | **generateRightForRow** row currentStats

examines row and updates the right stats in currentStats.

- Helper 3-c | **generateBelow** rows currentStats

examines rows and updates the below stats in currentStats.

- Helper 3-d | **generateBelowForTwoRows** row1 row2 currenStats
examines row1 and row2 and updates the below stats in currentStats
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Generation Phase

- Main 4 | **furnishRoom** n furn
furnish an n x n room with furn at placed at the top left corner. The room is furnished with stats generated in the training phase.
 - Helper 4-a | **furnishRoomHelper** rows above
adds above (a previously furnished row) to the result room and furnish rows (the remaining rows of the room).
 - Helper 4-b | **furnishFirstRow** n furn
furnishes the first row of an n x n room. The row will start with furn.
 - Helper 4-c | **furnishRow** furn above
furnishes a row with length equal to the length of above (the above row). The row will start with furn.
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- Main 5 | **getFurnStat** furn
retrieves the statistics of furn according to statsList.
 - Helper 5-a | **getFurnStatHelper** furn stats
searches for the statistics of furn in stats.
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- Main 6 | **getPossibleNeighbour** stat1 stat2
selects randomly a furniture object to be placed according to stat1 (statistics of the object to the left of the current room cell) and stat2 (statistics of the object to above the current room cell).
 - Helper 6-a | **sumFreq** stats
sums the frequencies of the objects in stats list. These objects are elements of statistics list elements.
 - Helper 6-b | **selectFurn** stats index
finds the furniture object at the given index in stats List.