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HW 7 Pseudocode and test cases

Person and WaitLine

1. public Person(int timeArrive, int nfloor){//non default constructors
2. id = sid;
3. sid += 1;//makes sure each id is unique
4. if(timeArrive > 0){
5. arrivalTime = timeArrive;
6. }
7. else{
8. arrivalTime = 1;
9. }
10. if(nfloor > 0){
11. floor = nfloor;
12. }
13. else{
14. floor = 1;
15. }
16. elevatorLeave = arrivalTime + 1;
17. leaveElevator = elevatorLeave + 2;
18. }
19. public void setId(int newId){
20. if(newId > 0){
21. id = newId;
22. }
23. else{
24. id = newId;
25. System.err.println("ERROR " + this.toString());
26. }
27. }
28. public void setArrivalTime(int newTime){
29. if(newTime > 0){
30. arrivalTime = newTime;
31. }
32. else{
33. arrivalTime = newTime;
34. System.err.println("ERROR " + this.toString());
35. }
36. }
37. public void setFloor(int newFloor){
38. if(newFloor > 0){
39. floor = newFloor;
40. }
41. else{
42. floor = newFloor;
43. System.err.println("ERROR " + this.toString());
44. }
45. }
46. public void setElevatorLeave(int newElevatorLeave){
47. if(newElevatorLeave > 0 && newElevatorLeave > arrivalTime){
48. elevatorLeave = newElevatorLeave;
49. }
50. else{
51. elevatorLeave = newElevatorLeave;
52. System.err.println("ERROR " + this.toString());
53. }
54. }
55. public void setLeaveElevator(int newLeaveElevator){
56. if(newLeaveElevator > 0 && newLeaveElevator > elevatorLeave){
57. leaveElevator = newLeaveElevator;
58. }
59. else{
60. leaveElevator = newLeaveElevator;
61. System.err.println("ERROR " + this.toString());
62. }
63. }
64. \_\_\_\_
65. Waitline
66. public WaitLine(int size){
67. limitLine = size;
68. line = new Person[size];
69. currentLine = 0;
70. maxLine = currentLine;
71. }
72. public boolean addPersonEnd(Person p){
73. try{
74. line[currentLine] = p;
75. currentLine += 1;
76. if (currentLine > maxLine){
77. maxLine += 1;
78. }
79. return true;
80. }catch(Exception ex){
81. return false;
82. }
83. }
84. public Person removePersonStart(){
85. try{
86. Person[] out = new Person[1];
87. out[0] = line[0];
88. for(int i = 0; i < currentLine-1; i++){
89. line[i] = line[i+1];
90. }
91. currentLine -= 1;
92. return out[0];
93. }catch(Exception ex){
94. return null;
95. }
96. }
97. public String toString(){
98. String out = "";
99. for(int i = 0; i < currentLine ; i++){
100. out = out + line[i] + "\n";
101. }
102. out = out + "Max Length line actually gets: " + maxLine;
103. return out;
104. }

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| --- | --- | --- |
| Input | Output | Tested |
| PersonClient:  Time arrive = -1  Floor = 5 | ID: 0 time arrived = 1 floor = 5 time elevator left = 2 time they leave elevator = 4 | Yes |
| PersonClient:  Time arrive = 5  Floor = -5 | ID: 0 time arrived = 5 floor = 1 time elevator left = 6 time they leave the elevator 8 | Yes |
| WaitLineClient | Person Added at End  ID: 0 Time Arrived: 1 Floor: 5 Time Elevator Left: 2 Time they leave elevator: 4  Max Length line actually gets: 1  ID: 0 Time Arrived: 1 Floor: 10 Time Elevator Left: 2 Time they leave elevator: 4  Max Length line actually gets: 1  Person Added at End  ID: 0 Time Arrived: 1 Floor: 10 Time Elevator Left: 2 Time they leave elevator: 4  ……. | yes |