Test :

The user inputs the number of floors in the building, and they are prompted to enter the travel speed they would like both the lifts to have. Then the code, auto generates random floors at which both the lifts are positioned, and the current floor the user is on is also auto generated, along with the floor of their destination. This cycle runs 1000 times and at the end it gives the sum of waiting time of lift 1 and lift 2. Then the average of both the waiting times. Then it calculates which lift has better average waiting time and then prints which lift is more efficient.

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Python 3.6.3 Shell

File  Edit  Shell  Debug  Options  Window  Help

Python 3.6.3 (v3.6.3:2c5fed8, Oct  3 2017, 17:26:49) [MSC v.1900 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
 RESTART: C:\Users\Administrator\Desktop\Programming coursework\Coursework - part b.py
PLease enter the number of floors in the building: 13
The lift takes total of 5 seconds to open and close
Please enter the travel speed between floors you would like for lift 1 to have: 0.5
Please enter the travel speed between floors you would like for lift 2 to have: 1
Lift 1 is on floor:   10
Lift 2 is on floor:   4
You are currently on floor 12
Waiting time for lift 1 is   6.0 secs
Waiting time for lift 2 is   13.0 secs
Your destination floor is 4
Time taken to reach destination by lift 1 is   9.0 secs
Time taken to reach destination by lift 2 is   13.0 secs
Lift 1 is on floor:   12
Lift 2 is on floor:   13
You are currently on floor 7
Waiting time for lift 1 is   7.5 secs
Waiting time for lift 2 is   11.0 secs
Your destination floor is 5
Time taken to reach destination by lift 1 is   6.0 secs
Time taken to reach destination by lift 2 is   7.0 secs
Lift 1 is on floor:   6
Lift 2 is on floor:   12
You are currently on floor 13
Waiting time for lift 1 is   8.5 secs
Waiting time for lift 2 is   6.0 secs
Your destination floor is 9
Time taken to reach destination by lift 1 is   7.0 secs
Time taken to reach destination by lift 2 is   9.0 secs
Lift 1 is on floor:   4
Lift 2 is on floor:   13
You are currently on floor 5
Waiting time for lift 1 is   5.5 secs
Waiting time for lift 2 is   13.0 secs
Your destination floor is 5
Time taken to reach destination by lift 1 is   5.0 secs
Time taken to reach destination by lift 2 is   5.0 secs
Lift 1 is on floor:   11
Lift 2 is on floor:   3
You are currently on floor 5
Waiting time for lift 1 is   8.0 secs
Waiting time for lift 2 is   7.0 secs
Your destination floor is 11
Time taken to reach destination by lift 1 is   8.0 secs
```

```
Time taken to reach destination by lift 1 is   11.0 secs
Time taken to reach destination by lift 2 is   17.0 secs
Lift 1 is on floor:   12
Lift 2 is on floor:   1
You are currently on floor 5
Waiting time for lift 1 is   8.5 secs
Waiting time for lift 2 is   9.0 secs
Your destination floor is 10
Time taken to reach destination by lift 1 is   7.5 secs
Time taken to reach destination by lift 2 is   10.0 secs
Lift 1 is on floor:   10
Lift 2 is on floor:   5
You are currently on floor 10
Waiting time for lift 1 is   5.0 secs
Waiting time for lift 2 is   10.0 secs
Your destination floor is 5
Time taken to reach destination by lift 1 is   7.5 secs
Time taken to reach destination by lift 2 is   10.0 secs
Lift 1 is on floor:   4
Lift 2 is on floor:   7
You are currently on floor 10
Waiting time for lift 1 is   8.0 secs
Waiting time for lift 2 is   8.0 secs
Your destination floor is 2
Time taken to reach destination by lift 1 is   9.0 secs
Time taken to reach destination by lift 2 is   13.0 secs
Lift 1 is on floor:   7
Lift 2 is on floor:   8
You are currently on floor 3
Waiting time for lift 1 is   7.0 secs
Waiting time for lift 2 is   10.0 secs
Your destination floor is 7
Time taken to reach destination by lift 1 is   7.0 secs
Time taken to reach destination by lift 2 is   9.0 secs
Lift 1 is on floor:   5
Lift 2 is on floor:   1
You are currently on floor 10
Waiting time for lift 1 is   7.5 secs
Waiting time for lift 2 is   14.0 secs
Your destination floor is 7
Time taken to reach destination by lift 1 is   6.5 secs
Time taken to reach destination by lift 2 is   8.0 secs
The sum of waiting time for lift 1 is :   7184.0
The sum of waiting time for lift 2 is :   9214.0
The average waiting time for lift 1 is :   7.1845
The average waiting time for lift 2 is :   9.214
Lift 1 is more efficient
>>>
```