INFO 6205 Section 5

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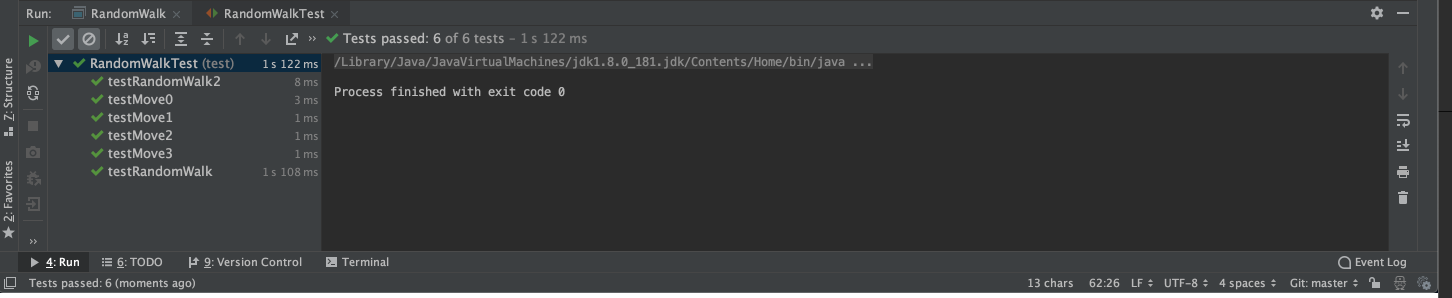
1. Conclusion:

Base on the experiment I did, my conclusion of the relationship between d (distance) , n ( steps ) and l ( step length ) is . More precisely, the d is a little bit smaller than .

1. Evidence:

| Experiment Times | Steps( n ) | Distance( d ) | step length ( l ) |
| --- | --- | --- | --- |
| 30 | 10 | 2.80525578383362 | 1 |
| 30 | 1000 | 30.0880768426233 | 1 |
| 30 | 10000 | 92.1308364861003 | 1 |
| 30 | 40000 | 175.960007404139 | 1 |
| 100 | 10000 | 88.3065790758685 | 1 |
| 200 | 40000 | 181.678306566981 | 1 |
| 500 | 10000 | 88.9920103679341 | 1 |
| 10000 | 40000 | 177.454202116755 | 1 |

Assuming the step length of drunken man is 1, These experiments show that d ( distance ) is slightly smaller than . no matter how you change the steps and experiment times.

3. Unit test result:

4. Code:

Please see the attached files.