Q2.   
  
When the mujava tool was used to mutate the implementation of the roman program, total 480 mutants were generated. All of the generated mutants were traditional mutants, and none of the generated mutants were class mutants.   
The number of different types of traditional mutants that were generated were the following:

|  |  |
| --- | --- |
| AORB | 52 |
| AORS | 0 |
| AOIU | 2 |
| AOIS | 68 |
| AODU | 0 |
| AODS | 0 |
| ROR | 112 |
| COR | 2 |
| COD | 0 |
| COI | 19 |
| SOR | 0 |
| LOR | 0 |
| LOI | 18 |
| LOD | 0 |
| ASRS | 52 |
| SDL | 101 |
| VDL | 0 |
| CDL | 13 |
| ODL | 41 |

The results were the following for traditional mutants:

|  |  |
| --- | --- |
| Live Mutants # | 57 |
| Killed Mutants # | 423 |
| Total Mutants # | 480 |
| Mutant Score | 88.0% |