Semester-long Project

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1 Results

1.1 Population Size of 1,000

Simulation Results:
Case (1): 125 x 0.8500 = 105 instances requiring 105 tests (there are no partial tests)
Case (2): 125 x 0.1496 = 19 instances requiring 133 tests
Case (3): 125 x 0.0004 = 1 requiring 7 tests

Total Number of Tests: 245

Expected Results:
Case (1): 125 x 0.8500 = 106.25 instances requiring 105 tests (there are no partial tests)
Case (2): 125 x 0.1496 = 18.7 instances requiring 133 tests
Case (3): 125 x 0.0004 = 0.05 round up to 1.0 instance requiring 7 tests Process finished with exit code 0

1.2 Population Size of 10,000

Simulation Results:
Case (1): 1250 x 0.8500 = 1067 instances requiring 1067 tests (there are no partial tests)
Case (2): 1250 x 0.1496 = 172 instances requiring 1204 tests
Case (3): 1250 x 0.0004 = 11 requiring 93 tests

Total Number of Tests: 2364

Expected Results:
Case (1): 1250 x 0.8500 = 1062.5 instances requiring 1067 tests (there are no partial tests)
Case (2): 1250 x 0.1496 = 187.0 instances requiring 1204 tests
Case (3): 1250 x 0.0004 = 0.5 round up to 1.0 instance requiring 93 tests

1.3 Population Size of 100,000

Simulation Results:
Case (1): 12500 x 0.8500 = 10698 instances requiring 10698 tests (there are no partial tests)
Case (2): 12500 x 0.1496 = 1677 instances requiring 11739 tests
Case (3): 12500 x 0.0004 = 125 requiring 1175 tests

Total Number of Tests: 23612

Expected Results:
Case (1): 12500 x 0.8500 = 10625.0 instances requiring 10698 tests (there are no partial tests)
Case (2): 12500 x 0.1496 = 1870.0 instances requiring 11739 tests
Case (3): 12500 x 0.0004 = 5.0 round up to 5.0 instance requiring 1175 tests

1.4 Population Size of 1,000,000

Simulation Results:
Case (1): 125000 x 0.8500 = 106720 instances requiring 106720 tests (there are no partial tests)
Case (2): 125000 x 0.1496 = 17012 instances requiring 119084 tests
Case (3): 125000 x 0.0004 = 1268 requiring 11852 tests

Total Number of Tests: 237656

Expected Results:
Case (1): 125000 x 0.8500 = 106250.0 instances requiring 106720 tests
(there are no partial tests)
Case (2): 125000 x 0.1496 = 18700.0 instances requiring 119084 tests
Case (3): 125000 x 0.0004 = 50.0 round up to 50.0 instance requiring 11852 tests