

1. This screenshot shows the sample output generated for all six random sequence generators across the three scenarios. Please review the output carefully.
2. This is provided as a demonstration for your reference. Your implementation and its output may vary based on your specific requirements.

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bhargav@Bhargav:/mnt/c/Users/bharg/OneDrive - Florida International University/Desktop/College Related/SUBJECTS/COP  
ment/AI/code$ ./a.out
```

```
--- Processing Scenario 1 ---  
mu=5.00, sigma=1.00, m=1, M=8, N=20  
Generated random numbers written to DATA/Scenario1/uniform_integer.txt  
File: DATA/Scenario1/uniform_integer.txt -> Mean = 5.10000, Std Dev = 2.31471 (Data Points: 20)  
Generated random numbers written to DATA/Scenario1/uniform_real.txt  
File: DATA/Scenario1/uniform_real.txt -> Mean = 4.36923, Std Dev = 2.10022 (Data Points: 20)  
Generated random numbers written to DATA/Scenario1/normal_real.txt  
File: DATA/Scenario1/normal_real.txt -> Mean = 5.19543, Std Dev = 1.10352 (Data Points: 20)  
Generated random numbers written to DATA/Scenario1/normal_integer.txt  
File: DATA/Scenario1/normal_integer.txt -> Mean = 4.80000, Std Dev = 1.23969 (Data Points: 20)  
Generated random numbers written to DATA/Scenario1/truncated_normal_real.txt  
File: DATA/Scenario1/truncated_normal_real.txt -> Mean = 5.26690, Std Dev = 0.90681 (Data Points: 20)  
Generated random numbers written to DATA/Scenario1/truncated_normal_integer.txt  
File: DATA/Scenario1/truncated_normal_integer.txt -> Mean = 4.85000, Std Dev = 1.13671 (Data Points: 20)  
  
--- Processing Scenario 2 ---  
mu=1024.00, sigma=256.00, m=1, M=2000, N=200000  
Generated random numbers written to DATA/Scenario2/uniform_integer.txt  
File: DATA/Scenario2/uniform_integer.txt -> Mean = 1000.19326, Std Dev = 577.97087 (Data Points: 200000)  
Generated random numbers written to DATA/Scenario2/uniform_real.txt  
File: DATA/Scenario2/uniform_real.txt -> Mean = 1002.08508, Std Dev = 577.55324 (Data Points: 200000)  
Generated random numbers written to DATA/Scenario2/normal_real.txt  
File: DATA/Scenario2/normal_real.txt -> Mean = 1024.68254, Std Dev = 256.26093 (Data Points: 200000)  
Generated random numbers written to DATA/Scenario2/normal_integer.txt  
File: DATA/Scenario2/normal_integer.txt -> Mean = 1024.69256, Std Dev = 255.03978 (Data Points: 200000)  
Generated random numbers written to DATA/Scenario2/truncated_normal_real.txt  
File: DATA/Scenario2/truncated_normal_real.txt -> Mean = 1023.42492, Std Dev = 255.97771 (Data Points: 200000)  
Generated random numbers written to DATA/Scenario2/truncated_normal_integer.txt  
File: DATA/Scenario2/truncated_normal_integer.txt -> Mean = 1024.08857, Std Dev = 255.89089 (Data Points: 200000)  
  
--- Processing Scenario 3 ---  
mu=4096.00, sigma=1331.20, m=1, M=8100, N=2000000  
Generated random numbers written to DATA/Scenario3/uniform_integer.txt  
File: DATA/Scenario3/uniform_integer.txt -> Mean = 4050.30973, Std Dev = 2338.19218 (Data Points: 2000000)  
Generated histogram for DATA/Scenario3/uniform_integer.txt written to HISTOGRAM/uniform_integer.txt  
Generated random numbers written to DATA/Scenario3/uniform_real.txt  
File: DATA/Scenario3/uniform_real.txt -> Mean = 4049.75179, Std Dev = 2338.32184 (Data Points: 2000000)  
Generated histogram for DATA/Scenario3/uniform_real.txt written to HISTOGRAM/uniform_real.txt  
Generated random numbers written to DATA/Scenario3/normal_real.txt  
File: DATA/Scenario3/normal_real.txt -> Mean = 4095.16677, Std Dev = 1331.82245 (Data Points: 2000000)  
Generated histogram for DATA/Scenario3/normal_real.txt written to HISTOGRAM/normal_real.txt  
Generated random numbers written to DATA/Scenario3/normal_integer.txt  
File: DATA/Scenario3/normal_integer.txt -> Mean = 4097.73973, Std Dev = 1331.20156 (Data Points: 2000000)  
Generated histogram for DATA/Scenario3/normal_integer.txt written to HISTOGRAM/normal_integer.txt  
Generated random numbers written to DATA/Scenario3/truncated_normal_real.txt  
File: DATA/Scenario3/truncated_normal_real.txt -> Mean = 4092.45080, Std Dev = 1314.63658 (Data Points: 2000000)  
Generated histogram for DATA/Scenario3/truncated_normal_real.txt written to HISTOGRAM/truncated_normal_real.txt  
Generated random numbers written to DATA/Scenario3/truncated_normal_integer.txt
```