Answer on Question #85577 – Math –Statistics and Probability

We the next algorithm[1]:

1. Arrange the entire population in a classified sequence.
2. Select the sample size (n)
3. Calculate sampling interval (k) = N/n
4. Select a random number between 1 to k (including k)
5. Add the sampling interval (k) to the chosen random number to add the next member to a sample and repeat this procedure to add remaining members of the sample.
6. In case k isn't an integer, you can select the closest integer to N/n.

$$N = 10, n = 3, k = \frac{N}{n} = \frac{10}{3} \approx 3.33 \approx 3$$

So, we have next results:

$$Sample\ 1 = \{a_1, a_4, a_7\}$$

$$Sample\ 2 = \{a_2, a_5, a_8\}$$

$$Sample\ 3 = \{a_3, a_6, a_9\}$$

$$Sample\ 4 = \{a_4, a_7, a_{10}\}$$

Answer provided by https://www.AssignmentExpert.com

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[1] https://www.questionpro.com/blog/systematic-sampling/