Question 3

Input:-

User’s input:

1. Minimum number for the range
2. Maximum number for the range

Output:-

1. Three random numbers calculated by formulas

Problem analysis:-

The question required us to stimulate three random numbers within a range to select three winners for a lucky draw. First, users need to input the minimum number and the maximum number for the range of numbers. Then, three random numbers will be stimulated by using these formulas.

a = min + (max / min) / 2

b = min + (max - min)

c = min + (max / 6)

After that, the three random numbers will be displayed.

Algorithm design:-

1. Prompt the user to input
2. Get the minimum number for the range.
3. Get the maximum number for the range.
4. Calculate the 3 random numbers by using the formulas:

a = min + (max – min) / 2 \* 6 / 4

b = min + (max – min) \* 6 / 2 / 3

c = min + (max - min) / 5 \* 8 / 5

1. Output the three random numbers a, b and c.

The first formula which is for the number a,

Variables:-

1. int min – for the minimum number for the range
2. int max – for the maximum number for the range
3. int a, b, c – for the three random numbers calculated by designed formulas

Main algorithm:-

Pseudo code:

1. BEGIN
2. Prompt the user to input
3. Get the minimum number for the range.
4. Get the maximum number for the range.
5. Calculate the 3 random numbers by using the formulas:

a = min + (max – min) / 2 \* 6 / 4

b = min + (max – min) \* 6 / 2 / 3

c = min + (max – min) / 5 \* 8 / 5

1. Output the three random numbers a, b and c.
2. END

Sample output:-

Please enter the minimum number for the range: 20

Please enter the maximum number for the range: 80

The 3 lucky numbers are: 65 80 39

Congratulations!