Вхідні та вихідні данні:

**Input:**

*Введіть першу точку проміжку:* -10

*Введіть другу точку проміжку:* 10

**Output:**

|k = |1

|Ak = |0

|Xk = |0

|Bk = |10

| |Bk - Ak| = |10

|F(Xk) = |-2

|k = |2

|Ak = |0

|Xk = |5

|Bk = |5

| |Bk - Ak| = |5

|F(Xk) = |3

|k = |3

|Ak = |0

|Xk = |2,5

|Bk = |2,5

| |Bk - Ak| = |2,5

|F(Xk) = |0,5

|k = |4

|Ak = |1,25

|Xk = |1,25

|Bk = |2,5

| |Bk - Ak| = |1,25

|F(Xk) = |-0,75

|k = |5

|Ak = |1,875

|Xk = |1,875

|Bk = |2,5

| |Bk - Ak| = |0,625

|F(Xk) = |-0,125

|k = |6

|Ak = |1,875

|Xk = |2,1875

|Bk = |2,1875

| |Bk - Ak| = |0,3125

|F(Xk) = |0,1875

|k = |7

|Ak = |1,875

|Xk = |2,03125

|Bk = |2,03125

| |Bk - Ak| = |0,15625

|F(Xk) = |0,03125

|k = |8

|Ak = |1,953125

|Xk = |1,953125

|Bk = |2,03125

| |Bk - Ak| = |0,078125

|F(Xk) = |-0,046875

|k = |9

|Ak = |1,9921875

|Xk = |1,9921875

|Bk = |2,03125

| |Bk - Ak| = |0,0390625

|F(Xk) = |-0,0078125

|k = |10

|Ak = |1,9921875

|Xk = |2,01171875

|Bk = |2,01171875

| |Bk - Ak| = |0,01953125

|F(Xk) = |0,01171875

|k = |11

|Ak = |1,9921875

|Xk = |2,001953125

|Bk = |2,001953125

| |Bk - Ak| = |0,009765625

|F(Xk) = |0,001953125

|k = |12

|Ak = |1,9970703125

|Xk = |1,9970703125

|Bk = |2,001953125

| |Bk - Ak| = |0,0048828125

|F(Xk) = |-0,0029296875

|k = |13

|Ak = |1,99951171875

|Xk = |1,99951171875

|Bk = |2,001953125

| |Bk - Ak| = |0,00244140625

|F(Xk) = |-0,00048828125

|k = |14

|Ak = |1,99951171875

|Xk = |2,000732421875

|Bk = |2,000732421875

| |Bk - Ak| = |0,001220703125

|F(Xk) = |0,000732421875

|k = |15

|Ak = |1,99951171875

|Xk = |2,0001220703125

|Bk = |2,0001220703125

| |Bk - Ak| = |0,0006103515625

|F(Xk) = |0,0001220703125

|k = |16

|Ak = |1,99981689453125

|Xk = |1,99981689453125

|Bk = |2,0001220703125

| |Bk - Ak| = |0,00030517578125

|F(Xk) = |-0,00018310546875

|k = |17

|Ak = |1,99996948242188

|Xk = |1,99996948242188

|Bk = |2,0001220703125

| |Bk - Ak| = |0,000152587890625

|F(Xk) = |-3,0517578125E-05

|k = |18

|Ak = |1,99996948242188

|Xk = |2,00004577636719

|Bk = |2,00004577636719

| |Bk - Ak| = |7,62939453125E-05

|F(Xk) = |4,57763671875E-05

Знайдено корiнь x=2,00004577636719, за N=18 подiл(и)(iв)!

Метод Ньтона

|k = |1 |

| |Xk - X(k-1)| = |6,27753602961397

|x = |3,72246397038603 |

|k = |2 |

| |Xk - X(k-1)| = |1,15507212480187

|x = |2,56739184558416 |

|k = |3 |

| |Xk - X(k-1)| = |0,351742236563219

|x = |2,21564960902094 |

|k = |4 |

| |Xk - X(k-1)| = |0,129154730490467

|x = |2,08649487853047 |

|k = |5 |

| |Xk - X(k-1)| = |0,0510506562716859

|x = |2,03544422225879 |

|k = |6 |

| |Xk - X(k-1)| = |0,0207919515490893

|x = |2,0146522707097 |

|k = |7 |

| |Xk - X(k-1)| = |0,0085732311968334

|x = |2,00607903951286 |

|k = |8 |

| |Xk - X(k-1)| = |0,00355313911984911

|x = |2,00252590039302 |

|k = |9 |

| |Xk - X(k-1)| = |0,00147571010462144

|x = |2,00105019028839 |

|k = |10 |

| |Xk - X(k-1)| = |0,000613440967050405

|x = |2,00043674932134 |

|k = |11 |

| |Xk - X(k-1)| = |0,000255096039375236

|x = |2,00018165328197 |

|k = |12 |

| |Xk - X(k-1)| = |0,000106096455128046

|x = |2,00007555682684 |

|k = |13 |

| |Xk - X(k-1)| = |4,41291511337205E-05

|x = |2,00003142767571 |

Знайдено корiнь x=2,00003142767571, за N=13 подiл(и)(iв)!