PARA EJECUTAR EL PROGRAMA:

En la carpeta se encuentra el proyecto de code blocks llamado "Tarea-1_epsilonMaquina.cbp", tambien se encuentra el codigo del programa llamado "main.cpp" y tambien se encuentra la aplicacion del programa ya compilado llamado "Tarea1", el cual, se puede ejecutar facilmente con: ./Tarea1.

El programa lo debes compilar desde la terminal ubicandote en la carpeta del proyecto "Tarea-1_epsilonMaquina" con el comando: gcc -o Tarea1 main.cpp -lgsl -lgslcblas -lm (Esto volvera a crear la aplicacion Tarea1 la cual ya existia)

Para ejecutarlo debes despues escribir el comando: ./Tarea1

OBSERVACION:

Los resultados del programa fueron los esperados, por ejemplo al sumar 1+epsilon en la representacion binaria se pone un 1 al final que es el siguiente numero.

En la funcion de sacar la raiz, se puede observar que al sacar raiz a partir de 2, se puede hacer 53 veces antes de que llegue al uno.

EJEMPLO DE EJECUCION:

Epsilon dado por DBL_EPSILON:

Decimal = 2.22044604925031308085e-16

Suma de 1.0 + DBL_EPSILON:

Decimal = 1.0000000000000022204e+00

Resta de 1.0 - DBL EPSILON / 2:

Decimal = 9.999999999999888978e-01

La tabla de valores para x = 2:

Decimal	Binario
2.0000000000000000000e+00	1.0000000000000000000000000000000000000
1.41421356237309514547e+00	1.01101010000010011111001100110011111111
1.18920711500272102690e+00	1.00110000011011111111100000101000110001101101110111000101
1.09050773266525768967e+00	1.0001011100101011110000011111000111110101
1.04427378242741375480e+00	1.00001011010101011010001101100111111001100010010010000
1.02189714865411662714e+00	1.000001011001101101000110100110101110000101
1.01088928605170047526e+00	1.00000010110010011010001111100111011110000
1.00542990111280272636e+00	1.00000001011000111101101010011111110110
1.00271127505020252180e+00	1.0000000010110001101011111101001011010101
1.00135471989210822485e+00	1.0000000001011000110010000110110110100001110000
1.00067713069306640783e+00	1.000000000101100011000000101111000101111010
1.00033850805268231809e+00	1.00000000001011000101111001110010000010000
1.00016923970530213772e+00	1.00000000000101100010111010111101111111
1.00008461627269418237e+00	1.0000000000001011000101110100000000111111
1.00004230724139575592e+00	1.00000000000001011000101110011000011011
1.00002115339696473484e+00	1.000000000000000101100010111001010010
1.00001057664254977553e+00	1.0000000000000000010110001011100100101010
1.00000528830729185081e+00	1.00000000000000000010110001011100100011011010
1.00000264415015016617e+00	1.0000000000000000000101100010111001000100111010
1.00000132207420122654e+00	1.0000000000000000000010110001011100100001111
1.00000066103688212138e+00	1.0000000000000000000010110001011100100001101111
	2.00000000000000000000e+00 1.41421356237309514547e+00 1.18920711500272102690e+00 1.09050773266525768967e+00 1.04427378242741375480e+00 1.02189714865411662714e+00 1.01088928605170047526e+00 1.00542990111280272636e+00 1.00271127505020252180e+00 1.00135471989210822485e+00 1.00067713069306640783e+00 1.00033850805268231809e+00 1.00016923970530213772e+00 1.00008461627269418237e+00 1.00004230724139575592e+00 1.00002115339696473484e+00 1.00001057664254977553e+00 1.00000528830729185081e+00 1.00000264415015016617e+00 1.00000132207420122654e+00

22 1.00000033051838643772e+00 23 1.00000016525917967414e+00 24 1.00000008262958650640e+00 25 1.00000004131479247604e+00 26 1.00000002065739601598e+00 27 1.00000001032869789697e+00 28 1.0000000516434894848e+00 29 1.00000000258217447424e+00 30 1.00000000129108723712e+00 31 1.00000000064554361856e+00 32 1.0000000032277180928e+00 33 1.0000000016138579362e+00 34 1.00000000008069278579e+00 35 1.00000000004034639289e+00 36 1.00000000002017319645e+00 37 1.00000000001008659822e+00 38 1.00000000000504329911e+00 39 1.00000000000252153853e+00 40 1.00000000000126076927e+00 41 1.00000000000063038463e+00 42 1.00000000000031508129e+00 43 1.0000000000015742962e+00 44 1.00000000000007860379e+00 45 1.0000000000003930190e+00 46 1.0000000000001953993e+00 47 1.00000000000000976996e+00 48 1.00000000000000488498e+00 1.0000000000000244249e+00 49 50 1.0000000000000111022e+00 1.00000000000000044409e+00 51 52 1.00000000000000022204e+00 53 1.000000000000000000000000e+00

La tabla de valores para x = 1e+11:

Valor	Decimal	Binario
1	1.00000000000000000000e+11	1.0111010010000111011011101100000000000
2	3.16227766016837907955e+05	1.00110100110100001111000100000110011011
3	5.62341325190349039076e+02	$1.00011001001010111011000010001011100111000111011001101*2^9$
4	2.37137370566165515129e+01	1.01111011011011011011110111110001100010000
5	4.86967525165863079906e+00	1.00110111101010001100001001100011000000
6	2.20673406908458957787e+00	1.00011010011101100100001100010000110101111
7	1.48550801717277503045e+00	1.011111100010010100100100000110111111011001111
8	1.21881418484228976062e+00	1.00111000000001000011010011010111111001100011011010
9	1.10399917791739765605e+00	1.00011010100111111101100001010101111111
10	1.05071365172315034364e+00	1.0000110011111011100100011110001111001111
11	1.02504324383079103988e+00	1.0000011001101001001110111111010010011111
12	1.01244419294635257245e+00	1.00000011001011111000101011110100110111010
13	1.00620285874487191968e+00	1.000000011001011010000010101100110111001101111
14	1.00309663479889699111e+00	1.0000000011001010111100001110100100110000
15	1.00154712060836015297e+00	1.0000000001100101011001000110000001101010
16	1.00077326133763189198e+00	1.0000000001100101010110100101100001010000
17	1.00038655595606229554e+00	1.0000000000110010101010101010101011000001111
18	1.00019325930345193143e+00	1.00000000000110010101010101101001100011010
19	1.00009662498353213422e+00	1.00000000000011001010101001100100100100
20	1.00004831132477400857e+00	1.000000000000011001010101000011110001111010
21	1.00002415537064592854e+00	1.00000000000000110010101010000101000011011100110000
22	1.00001207761238863903e+00	1.000000000000000110010101010000011110011010
23	1.00000603878796079371e+00	1.0000000000000000011001010101000001100101

24 1.00000301938942204316e+00 25 1.00000150969357148867e+00 26 1.00000075484650086111e+00 27 1.00000037742317915423e+00 28 1.00000018871157170253e+00 29 1.00000009435578141037e+00 30 1.00000004717788959496e+00 31 1.00000002358894457544e+00 32 1.00000001179447228772e+00 33 1.00000000589723603284e+00 34 1.00000000294861801642e+00 35 1.0000000147430889719e+00 36 1.00000000073715433757e+00 37 1.00000000036857716879e+00 38 1.0000000018428858439e+00 39 1.00000000009214429220e+00 40 1.00000000004607203508e+00 41 1.00000000002303601754e+00 42 1.00000000001151789775e+00 43 1.00000000000575894887e+00 44 1.00000000000287947444e+00 45 1.00000000000143973722e+00 46 1.00000000000071986861e+00 47 1.00000000000035993430e+00 48 1.00000000000017985613e+00 49 1.00000000000008992806e+00 1.00000000000004485301e+00 50 1.00000000000002242651e+00 51 1.00000000000001110223e+00 52 53 1.0000000000000555112e+00 54 1.00000000000000266454e+00 55 1.0000000000000133227e+00 1.00000000000000066613e+00 56 1.00000000000000022204e+00 57 58 1.000000000000000000000000e+00