

Programming 4

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Question A

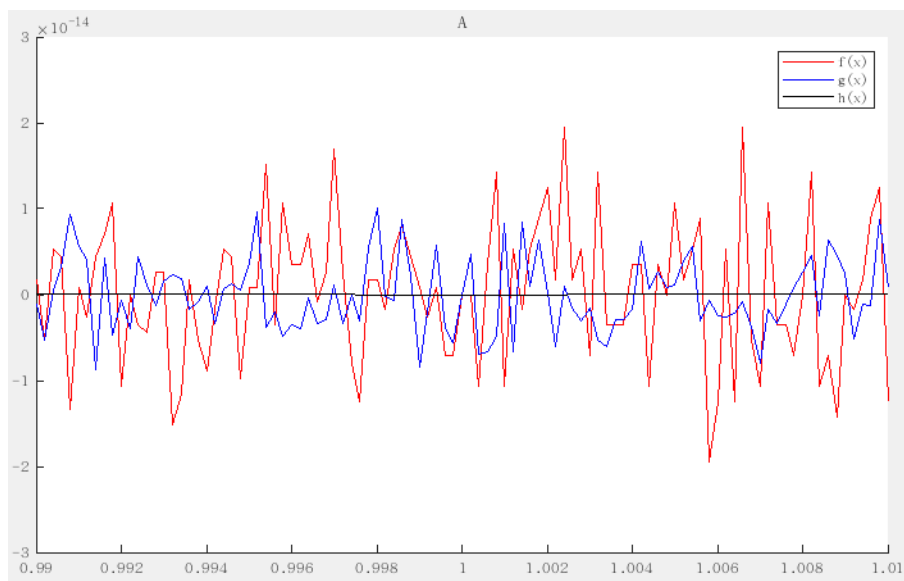


图 1: A

We see that $f(x)$ and $g(x)$ are wild fluctuation and $h(x)$ is most accurate, it is because $h(x)$ only have once subtraction and none addition but $f(x)$ and $g(x)$ have many.

Question B

(1)

UFL : 0.5

OFL : 3.5

(2)

All normal numbers of F :

-3.5 , -3 , -2.5 , -2 , -1.75 , -1.5 , -1.25 , -1 , -0.875 , -0.75 , -0.625 , -0.5 , 0 ,
0.5 , 0.625 , 0.75 , 0.875 , 1 , 1.25 , 1.5 , 1.75 , 2 , 2.5 , 3 , 3.5

(3)

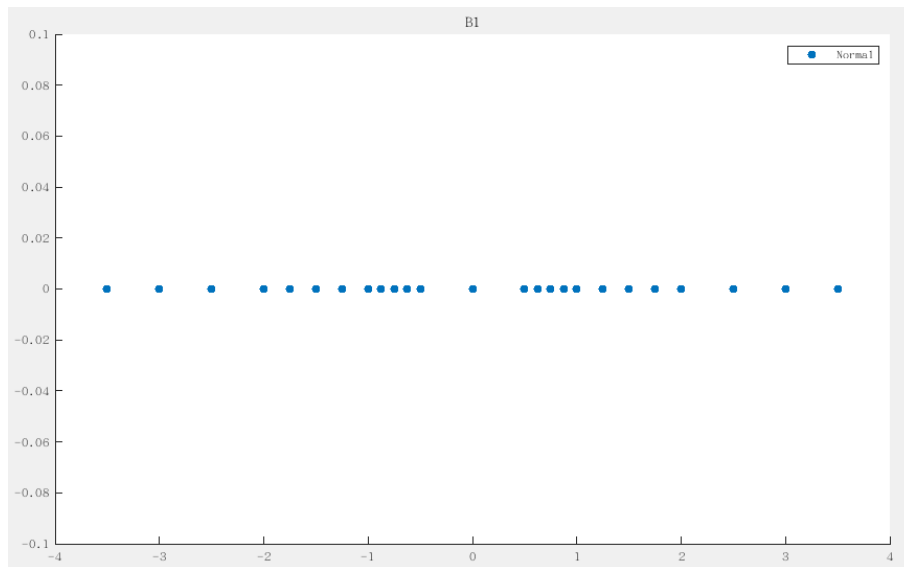


图 2: B1

(4)

All subnormal numbers of F :

-0.1875 , -0.125 , -0.0625 , 0.0625 , 0.125 , 0.1875

(5)

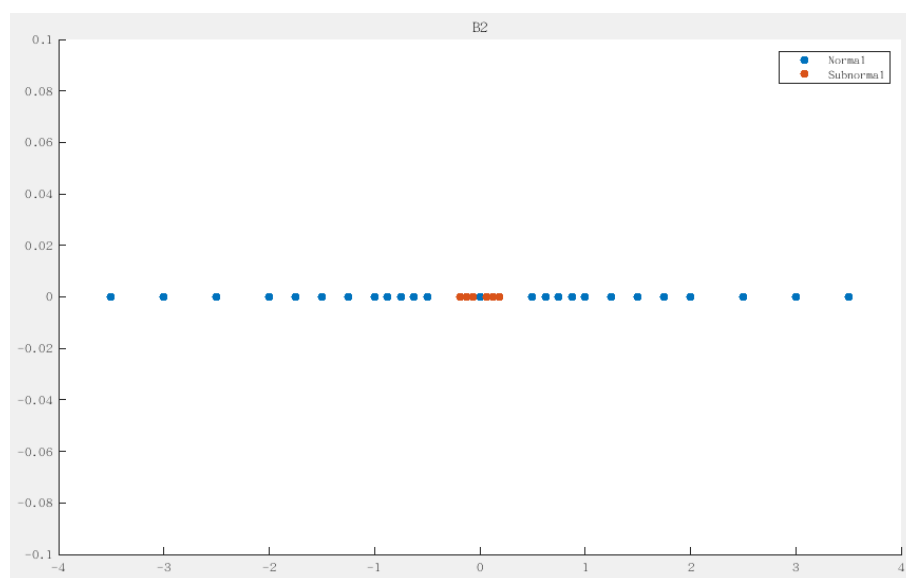


图 3: B2