

Console

n	xn Xn+1	f(xn) Error	f1(xn)
0	0.0000000000 -3.0000000000	-3.0000000000 3.0000000000	-1.0000000000
1	-3.0000000000 -1.9615384615	-27.0000000000 1.0384615385	26.0000000000
2	-1.9615384615 -1.1471759614	-8.5857419208 0.8143625001	10.5428994083
3	-1.1471759614 -0.0065793715	-3.3625221574 1.1405965899	2.9480380593
4	-0.0065793715 -3.0003890741	-2.9934209133 2.9938097026	-0.9998701356
5	-3.0003890741 -1.9618181757	-27.0101172883 1.0385708984	26.0070037874
6	-1.9618181757 -1.1474302285	-8.5886913791 0.8143879472	10.5461916631
7	-1.1474302285 -0.0072562476	-3.3632719689 1.1401739809	2.9497883877
8	-0.0072562476 -3.0004731888	-2.9927441345 2.9932169412	-0.9998420406
9	-3.0004731888 -1.9618786464	-27.0123049234 1.0385945424	26.0085180696
10	-1.9618786464 -1.1474851932	-8.5893291362 0.8143934531	10.5469034691

Therefore, it is cyclic in nature