```
Python 3.7.4 (default, Aug  9 2019, 18:34:13) [MSC v.1915 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 7.8.0 -- An enhanced Interactive Python.

In [1]:
runfile('D:/_First_Semester_of_Senior_Year/Numerical_Analysis(1)/homeworks/hw1/codes/hw1_5.py',
wdir='D:/_First_Semester_of_Senior_Year/Numerical_Analysis(1)/homeworks/hw1/codes')
--------Newton method on f--------
1.2857142857142858
1.1571428571428573
1.083567299752271
1.0433350533716832
1.022108353517131
1.0111724493635321
1.0056169162381714
1.0028162796567097
1.0014101143449448
1.0007055532288445
1.0003529009341905
1.00017648158539
1.0000882485770717
1.000044126235231
1.0000220636043644
1.0000110319238789
1.0000055159923649
1.000002758003789
1.000001379003796
1.0000006895023734
1.0000003447513055
1.0000001723756824
1.0000000861878486
1.0000000430939262
1.0000000215469635
1.0000000107734819
1.000000005386741
1.0000000026933706
1.0000000013466854
1.0000000006733427
1.0000000003366714
1.0000000001683358
1.000000000084168
1.0000000000420841
1.000000000021042
1.0000000000105211
1.0000000000052607
1.0000000000026303
1.0000000000013152
1.0000000000006577
1.0000000000003288
1.0000000000001645
1.0000000000000824
1.0000000000000413
1.0000000000000207
1.0000000000000104
1.0000000000000053
1.0000000000000027
1.0000000000000013
1.0000000000000007
1.0000000000000004
1.0000000000000002
1.0000000000000002

--------Newton method on derivative of f--------
```

```
1.15
1.0232758620689655
1.00075960710217
1.000000863536579
1.0000000000011184
1.0
1.0
```

Since f(1)=0 and f'(1)=0, f has repeated root at x=1.

In [2]: