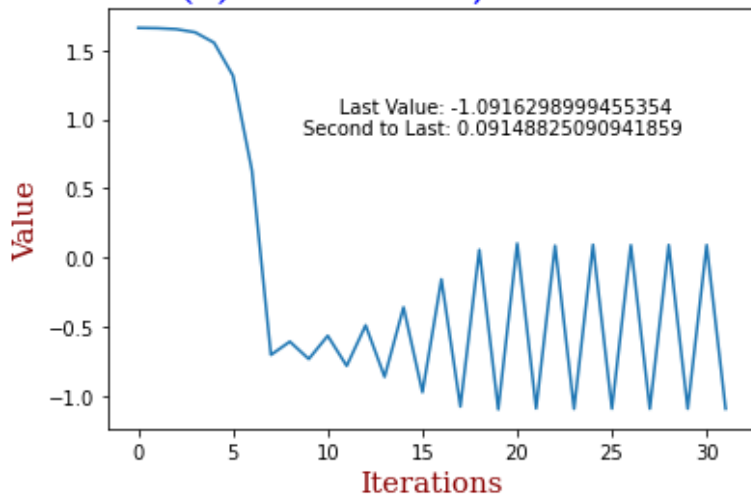


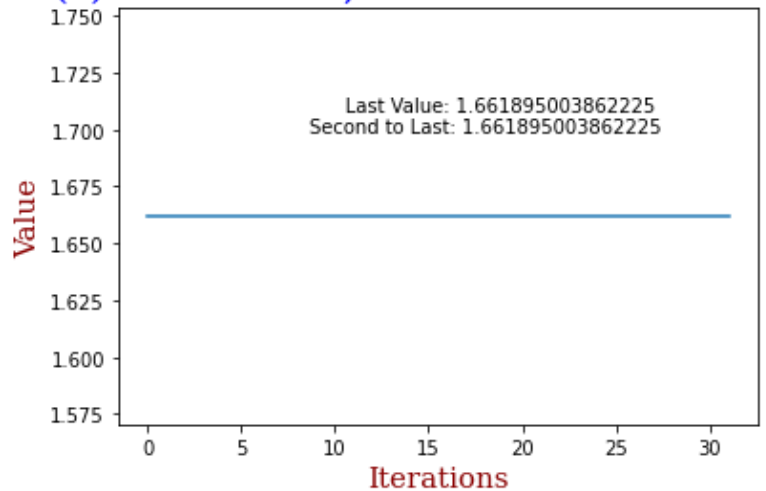
1. A, B

$$F(x) = x^2 - 1.1, x_0 = 1.661$$



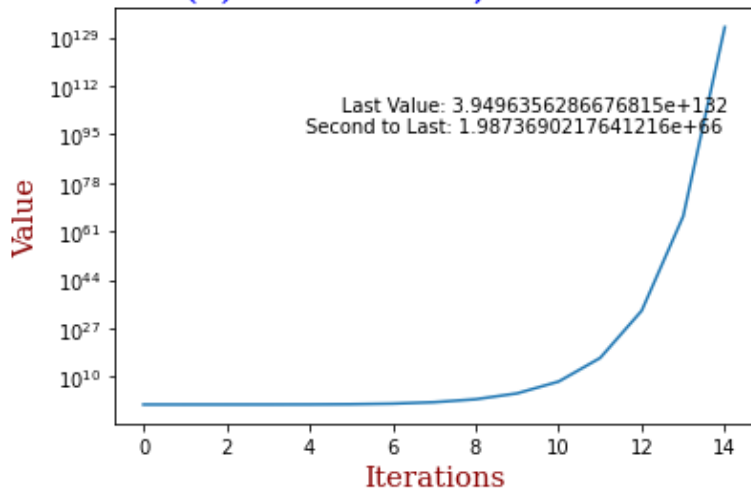
$$\left| \frac{1}{2} - \frac{3\sqrt{0.6}}{2} \right| < x_0 < \frac{1}{2} + \frac{3\sqrt{0.6}}{2}, \text{ 2-cycle}$$

$$F(x) = x^2 - 1.1, x_0 = 1.66189500386223$$



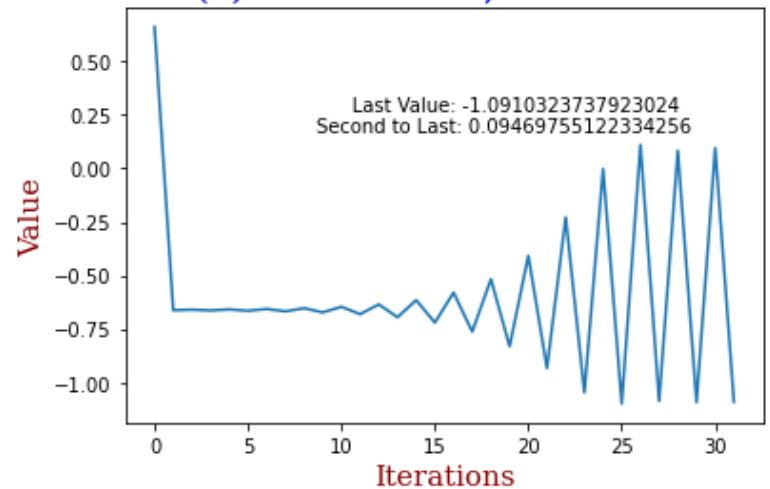
$$x_0 = \frac{1}{2} + \frac{3\sqrt{0.6}}{2}, \text{ fixed point}$$

$$F(x) = x^2 - 1.1, x_0 = 1.663$$



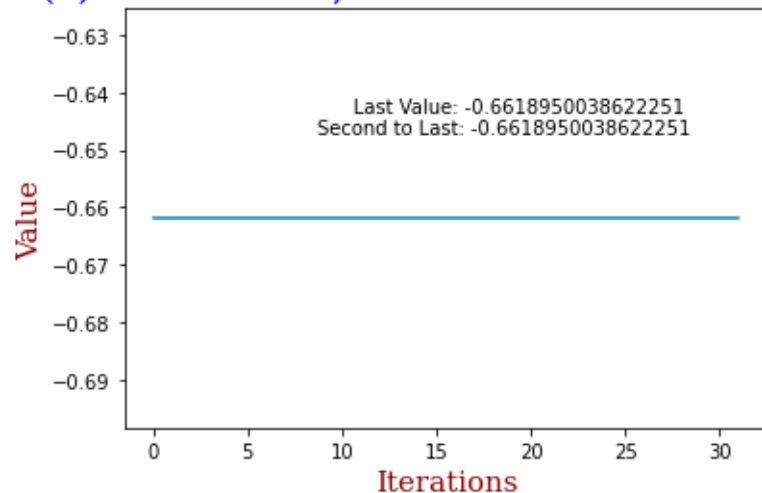
$$x_0 > \frac{1}{2} + \frac{3\sqrt{0.6}}{2}, \rightarrow \infty$$

$$F(x) = x^2 - 1.1, x_0 = 0.661$$

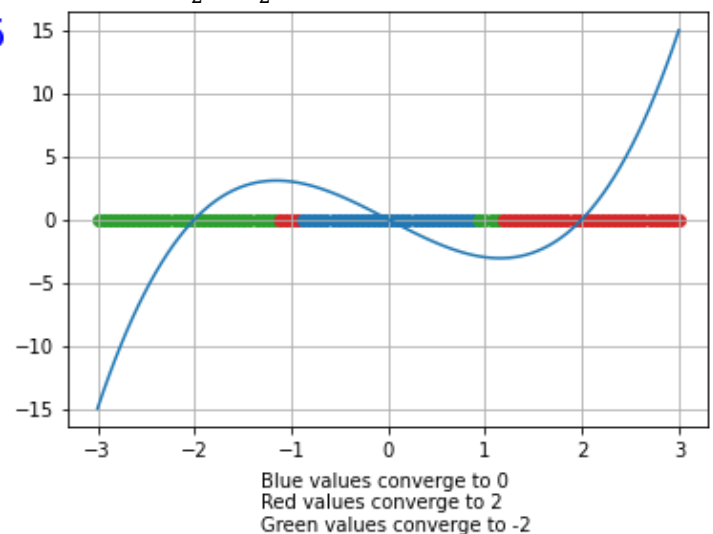


$$0 \leq x_0 < \left| \frac{1}{2} - \frac{3\sqrt{0.6}}{2} \right|, \text{ 2-cycle}$$

$$F(x) = x^2 - 1.1, x_0 = -0.661895003862225$$



$$x_0 = \frac{1}{2} - \frac{3\sqrt{0.6}}{2}, \text{ fixed point}$$



C3: Newton's method will fail if the derivative of $F(x)$, $F'(x)$ is equal to 0.
Because:

$$N(x) = x - \frac{F(x)}{F'(x)}$$

And there cannot be a zero in the denominator

C2: The structure of the basin of attraction implies that Newton's method can be used to find the basin of attraction