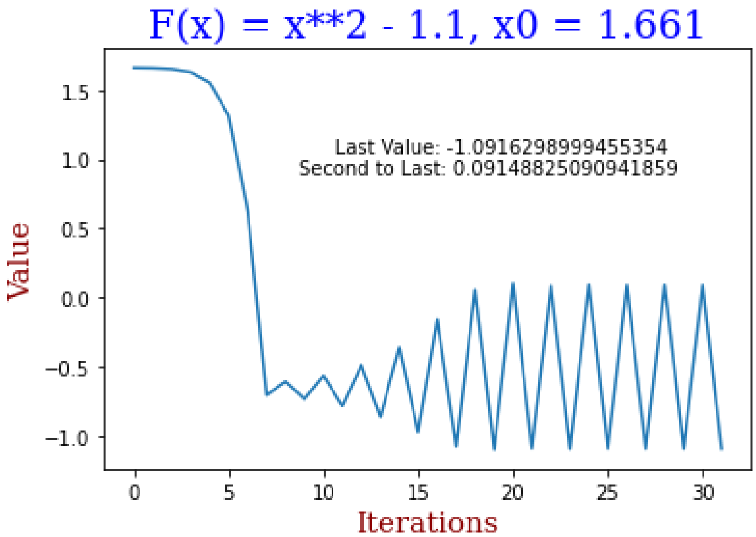
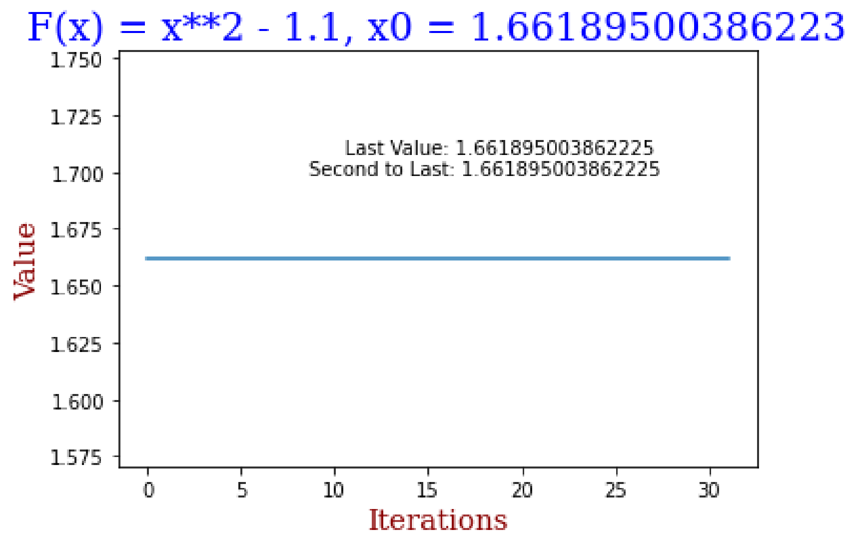
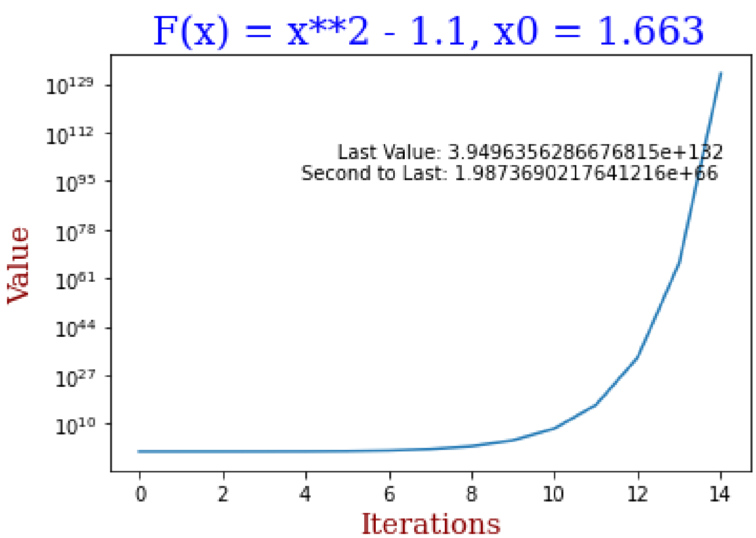
1. A, B

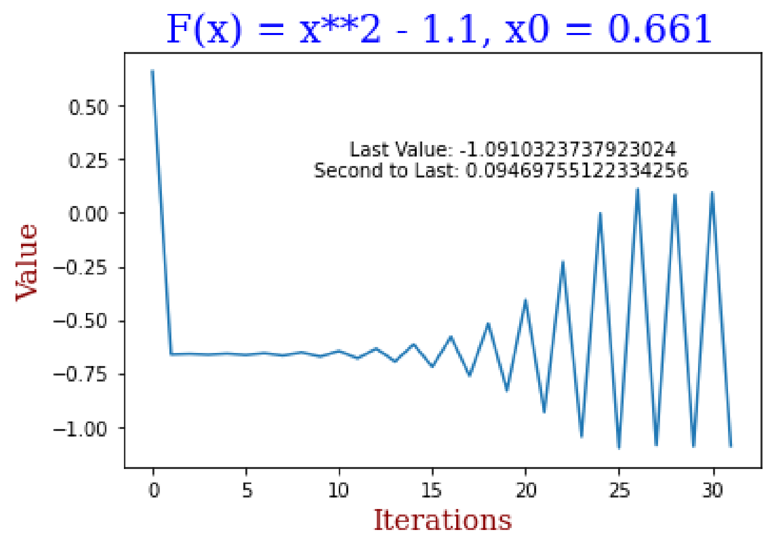




$|\frac{1}{2} - \frac{3\sqrt{0.6}}{2}| < x_0 < \frac{1}{2} + \frac{3\sqrt{0.6}}{2}$, 2-cycle

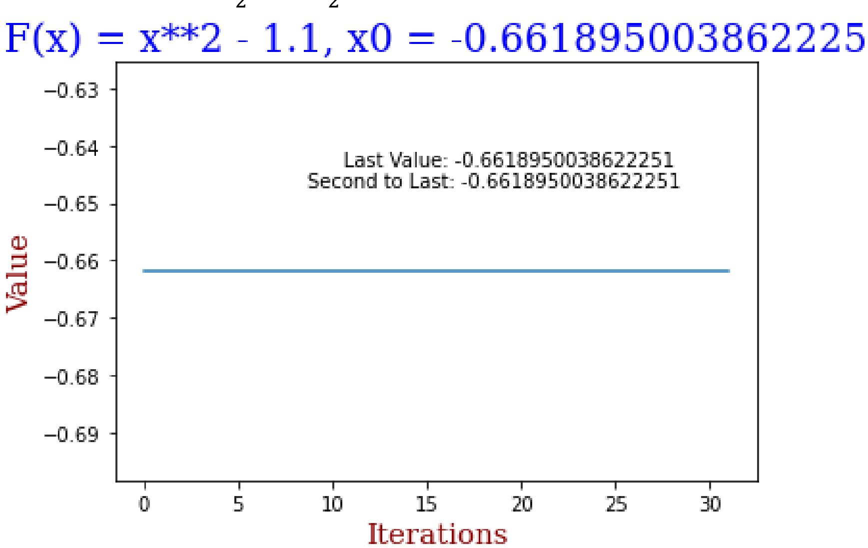
$x_0 = \frac{1}{2} + \frac{3\sqrt{0.6}}{2}$, fixed point

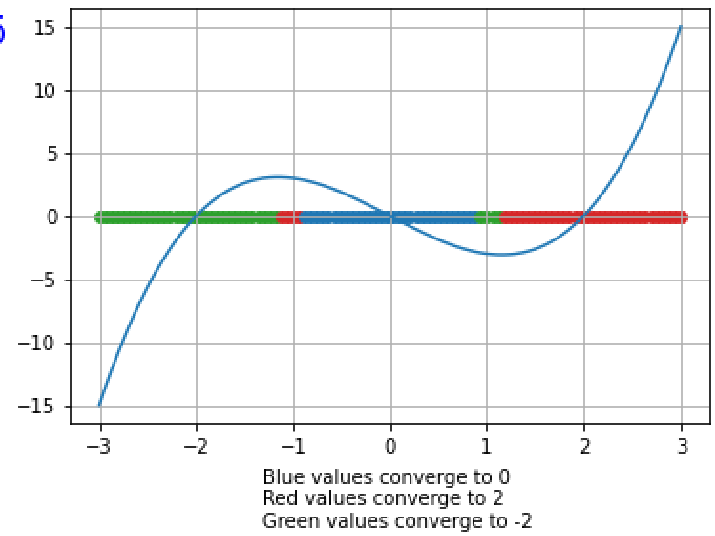




$X_0 > \frac{1}{2} + \frac{3\sqrt{0.6}}{2}$, -> ∞

$0 \le x_0 < |\frac{1}{2} - \frac{3\sqrt{0.6}}{2}|$, 2-cycle





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

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

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