

```
import numpy as np

ITERATIONS = 100
DENSITY = 1000
x_min, x_max = -2.68, 1.32
y_min, y_max = -1.5, 1.5

x, y = np.meshgrid(np.linspace(x_min, x_max, DENSITY),
                    np.linspace(y_min, y_max, DENSITY))

c = x + 1j*y
z = c.copy()
fractal = np.zeros(z.shape, dtype=np.uint8) + 255

for n in range(ITERATIONS):
    print("Iteration %d" % (n+1))
    mask = abs(z) <= 10
    z[mask] *= z[mask]
    z[mask] += c[mask]
    mask = abs(z) > 10
    fractal[(fractal == 255) & (mask)] = 254. * n / ITERATIONS

logfractal = np.log(fractal)

print("Saving...")
np.savetxt("fractal_py.dat", logfractal)
np.savetxt("coord_py.dat", [x_min, x_max, y_min, y_max])
```