Code recap

\[
\begin{align*}
\text{\texttt{Grid} \leftarrow \{ & \text{centre} (w, h)) \leftarrow \alpha \land re \leftarrow \omega \div 2 + \left( w \times \omega \land im \leftarrow \phi \times \omega \div 2 + \left( h \times \omega \land \right. \right.} \\
& \text{centre} + \left( im \land + re \right) - \left( w \div 2 \right) \lor \times \left( h \div 2 \right) \land \}
\end{align*}
\]
Code recap

∇ its ← maxiter Mandelbrot grid
; m ; _ ; cs ; _cs ; F

_cs ← cs ← ,grid
m ← 1p~pcs
its ← 0p~pcs
F ← {⍺+⍵*2}
:For _ :In ⍳ maxiter
    (m/cs) ← _cs F⍥(m∘/) cs
    (m/its) ←+ 1
    (m/m) ← 2>|m/cs
:EndFor
its p~← pgrid
∇
Code recap

Palette ← {
  A Dumb-down of https://stackoverflow.com/a/25816111/2828287
  n ← ⌈ω÷4
  Seg ← {⌈α+∘0 1÷(ω−α)×n÷n}n
  0,~>,/2Seg/(0 7 100)(66 107 203)(237 255 255)(255 170 0)(0 2 0)
}

GreyPalette ← {
  colours ← ⌊255×2*ω÷2+1+ω
  1⊂coloursρ~3,'ρcolours
}
Code recap (usage)

its ← 50 Mandelbrot −.5 (3 2) Grid 300
pal ← GreyPalette 50
colours ← 256↑pal[;,its]
'c:/tmp/mdb.png' Png.Write colours
Useful links

• Jupyter notebook on the Mandelbrot set
  https://github.com/Dyalog/dyalog-jupyter-notebooks

• Brian Becker’s post on Mandelbrot + isolates

• Nicolas Delcros’s “Making images and videos of the Buddhabrot” article in Vector
    ○ (Png namespace)

• Today’s code as a namespace
  https://github.com/RojerGS/fractals/tree/master/mapl
<table>
<thead>
<tr>
<th>Date</th>
<th>Organization</th>
<th>Topic</th>
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<td>open session</td>
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<tr>
<td>Jun  3</td>
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<tr>
<td>Jun 10</td>
<td>Dyalog</td>
<td>Error Handling – Part 3</td>
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<td>AGM</td>
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<tr>
<td>July  8</td>
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<td>TBD</td>
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[br <![CDATA[ishapla]]]>ssociation.org]
Thanks for watching!

Questions?