Excelマクロ　　　　マンデルブロ集合

Sub マンデルブロ集合()

　Dim a As Double, b As Double

Dim i As Integer, j As Integer, k As Integer

Dim amax As Double, amin As Double

Dim bmax As Double, bmin As Double

Dim x As Double, y As Double, xdummy As Double, ydummy As Double

Dim n As Integer, kmax As Integer

　Application.ScreenUpdating = False

amax = 1.2

amin = -2

bmax = 1.2

bmin = -1.2

n = 200

kmax = 100

For i = 0 To n

For j = 0 To n

a = amin + (amax - amin) \* i / n

b = bmin + (bmax - bmin) \* j / n

x = 0

y = 0

For k = 1 To kmax

xdummy = x

ydummy = y

x = x \* x - y \* y + a

y = 2 \* xdummy \* ydummy + b

If Sqr(x \* x + y \* y) > 2 Then

col = k

Exit For

End If

col = 0

Next k

Worksheets("Sheet1").Range(Cells(j + 2, i + 2), Cells(j + 2, i + 2)).Interior.Color = RGB((col \* 20) Mod 255, (col \* 20) Mod 255, (col \* 20) Mod 255)

Next j

Next i

Application.ScreenUpdating = True

End Sub