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