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Question: Required information A fractal is a curve or geometric figure, each part of which has the same st...

Help with matlab



Required information

A *fractal* is a curve or geometric figure, each part of which has the same statistical character as the whole. Fractals are useful in modeling structures (such as eroded coastlines or snowflakes) in which similar patterns recur at progressively smaller scales and in describing partly random or chaotic phenomena such as crystal growth, fluid turbulence, and galaxy formation. Devaney (1990) has written a nice little book that includes a simple algorithm to create an interesting fractal pattern. Here is a step-by-step description of this algorithm:

- Step 1: Assign value to m and n and set hold on.
- Step 2: Start a for loop to iterate over $i = 1:100000$
- Step 3: Compute a random number, $q = 3*\text{rand}(1)$
- Step 4: If the value of q is less than 1 go to Step 5. Otherwise go to Step 6.
- Step 5: Compute new values for $m = m/2$ and $n = n/2$ and then go to Step 9.
- Step 6: If the value of q is less than 2 go to Step 7. Otherwise go to Step 8.
- Step 7: Compute new values for $m = m/2$ and $n = (300 + n)/2$, and then go to Step 9.
- Step 8: Compute new values for $m = (300 + m)/2$ and $n =$

$(300 + n)/2$.

Step 9: If i is less than 100000 then go to Step 10.

Otherwise, go to Step 11.

Step 10: Plot a point at the coordinate (m, n) .

Step 11: Terminate i loop.

Step 12: Set `hold off`.

Develop a MATLAB script for the given algorithm using **for** and **if** structures, and run it for the case $m = 100$ and $n = 200$.

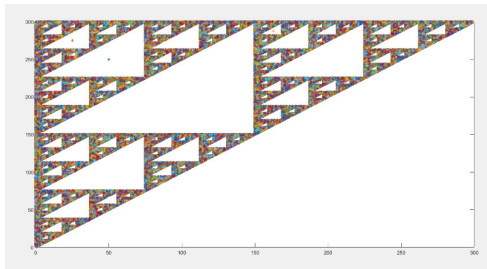
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Expert Answer



Anonymous
answered this

```
1 m=100;  
2 n=200;  
3 for i=1:100000  
4     q=3*rand(1);  
5     if q<1  
6         m=m/2;  
7         n=n/2;  
8     elseif q<2  
9         m=m/2;  
10        n=(300+n)/2;  
11    else  
12        m=(300+m)/2;  
13        n=(300+n)/2;  
14    end  
15    plot(m,n,'+');  
16    hold on  
17 end  
18 hold off  
19
```



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downward velocity v_A of 2 m/s during an interval of its motion. For the po...

5/82 End A of the link has a downward velocity v_A of 2 m/s during an interval of its motion. For the position where $\theta = 30^\circ$ determine the angular velocity ω of AB and the velocity v_G of the midpoint G of the link. Solve the relative-velocity equations, first, using the geometry of the vector polygon and, second, using vector algebra.



[See answer](#)

function to convert a vector of temperatures from Celsius to Fahrenheit and vice versa. Test it with the following data for the average monthly temperatures at Death

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