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> # Max Mekhanikov - Attendance Question 1
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Help9():
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# Find the fixed points of the mapping  $x \rightarrow 3.6x$  if it exists and the stable fixed points
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```
#  $f:=3.6*x*(1-x)$ ;
```

$$f:=3.6(1-x)x$$

```
> Orb(f,x,0.0001,1000,1020):
```

```
FP(F,x):
```

```
#  $f'(x) = 3.6-7.2x$ ,  $f'(0)$  determines stability
```

```
# **NEED MAPLE CODE ORB AND HELP9() TO PROPERLY EXECUTE AND FIND VALUES**
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```
# Attendance Question 2 - What other constant did Feigenbaum discover and what was its significance?
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```
Error, missing operator or `;`
```

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> # According to Google, in mathematics, specifically bifurcation theory, the Feigenbaum constants are two mathematical constants which both express ratios in a bifurcation diagram for a non-linear map. They are named after the physicist Mitchell J. Feigenbaum. The first Feigenbaum constant  $\delta$  is the limiting ratio of each bifurcation interval to the next between every period doubling, of a one-parameter map = 4.669. The second Feigenbaum constant or Feigenbaum's alpha constant is the ratio between the width of a tine and the width of one of its two subtines (except the tine closest to the fold,  $\alpha = 2.502$ ). A negative sign is applied to  $\alpha$  when the ratio between the lower subtine and the width of the tine is measured.
```