

Solutions to Attendance Quiz for Lecture 8 of Dr. Z.'s Dynamical Models in Biology class

1. Using the Maple code, find all the stable steady-states of

```
f:=MakeNicePol([4,5,7,8,9,11],1000,x)
```

For each of these steady-states pick numbers close to them and verify that the orbit converges to them.

Sol. of 1: In the Maple package `DMB8.txt`, typing

```
SSS(f,x);
```

gives the list of stable steady-states:

`[4, 7, 9]`

Doing `Orb(f,x,4.2,1000,1010)` you get values very close to 4

Doing `Orb(f,x,7.3,1000,1010)` you get values very close to 7

Doing `Orb(f,x,9.3,1000,1010)` you get values very close to 9

Hence this confirms that these are stable steady-states.