

Q3)

For the given label on a single the output predicted is Yes with the following cuts

(Income, 1.5), (Age, 47.5)

So according to a single tree the given user will buy a computer

Q4)For a particular random run

OOB error on 10 trees is 0.6956521739130435

OOB error for Random forest is 0.4827586206896552

It is noted that generally OOB error for Random forest is less though sometimes it might be more

Q5)For a particular random run

Val error for degree 1 is [[0.20424367]]

Val error for degree 2 is [[0.21368782]]

Val error for degree 3 is [[0.01554765]]

Val error for degree 4 is [[0.01999879]]

**The best degree is 3**

Train error after training on whole dataset=0.00831621

