

Problem 2

a)

b) $\frac{2}{100} + \frac{1}{100} + \frac{6}{100} + \frac{8}{100} = \frac{14}{100} = \frac{7}{50} = R(T)$

c) $R(T) = \frac{14}{100}$, is a likely

fair measurement as

the tree seems

to classify

enough examples to

each class,

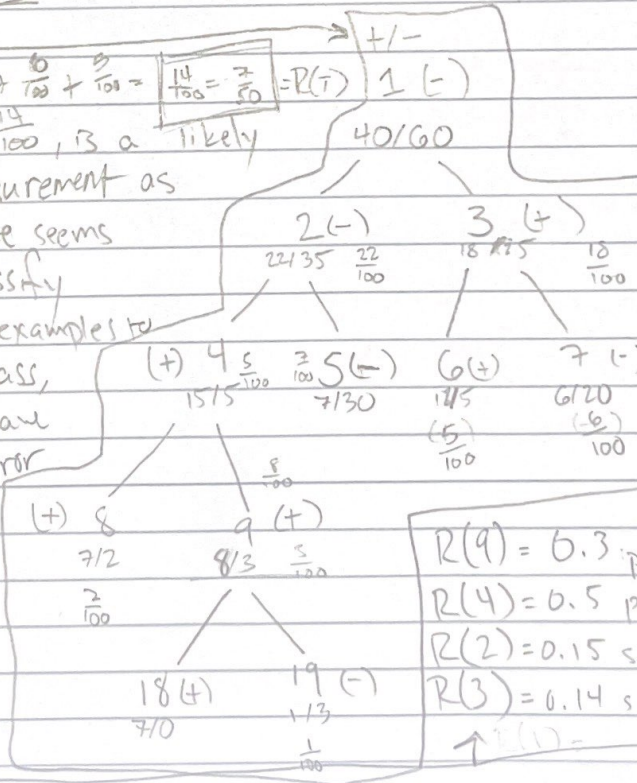
and we have

a low error

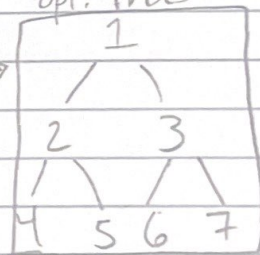
rate.

d) $\alpha = 0.03$

$R^*(q) =$



opt. tree



e) increase α by 0.05 to 0.08 to prune at 3.

$R(9) = 0.3$ prune
 $R(4) = 0.5$ prune
 $R(2) = 0.15$ split
 $R(3) = 0.14$ split
 $\uparrow R(1) =$