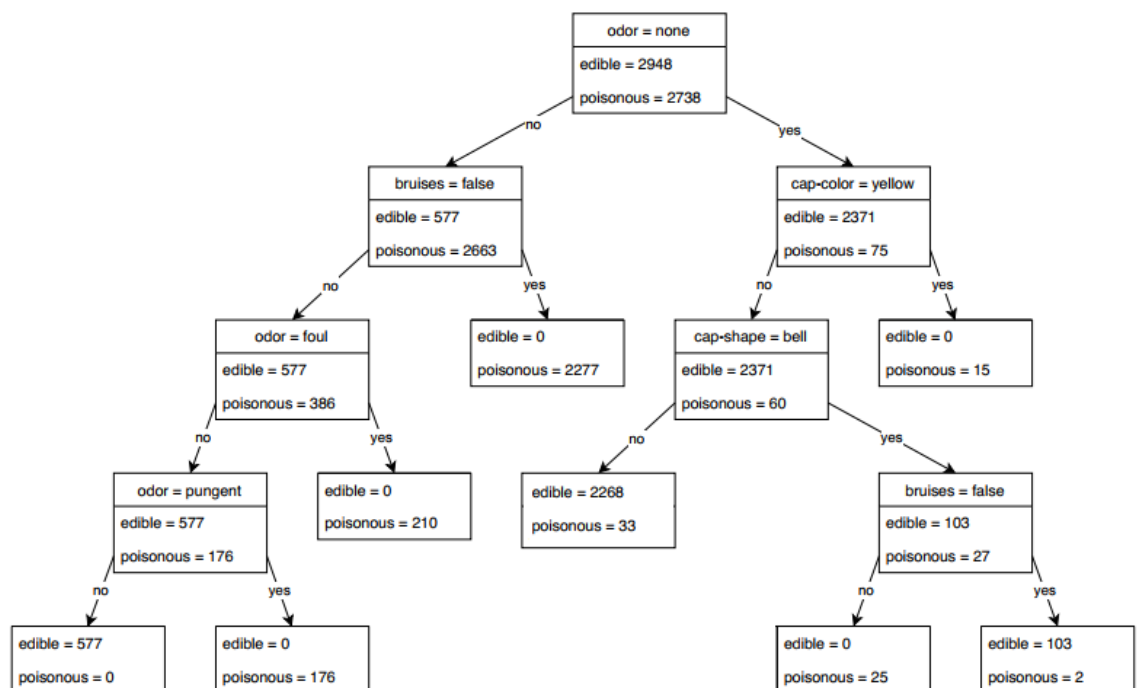## Task 2:

Total error for the tree is : (0 + 0 + 24 + 9 + 0 + 2 + 60 + 27)/(2948+2738) = 122/5686 = 0.021

Viable Nodes for step 1 are "odor = pungent", "cap-color" = pink and "bruises = false"

- ➢ "odor = pungent" : (122 + 176) / 5686 = 0,0524
- ➢ "cap-color = pink" : 122 / 5686 = 0.021
- ➢ "bruises = false" : (122 + 25)/5686 = 0.026

   ➔ Remove Cap-color = pink, lowest prediction error of the three (stays unchanged to original tree in this case)

Viable Nodes for step 2 are "odor = pungent" and "bruises = false"

Since error remained the same, error for pruned trees also remains the same

- ➢ "odor = pungent" : (122 + 176) / 5686 = 0,0524
- ➢ "bruises = false" : (122 + 25)/5686 = 0.026

   ➔ Remove bruises = false, lowest prediction error

```
                              odor = none
                              edible = 2948
                              poisonous = 2738
                         no  /              \  yes
                            /                \
              bruises = false              cap-color = yellow
              edible = 577                 edible = 2371
              poisonous = 2663             poisonous = 75
         no  /          \  yes         no  /          \  yes
            /            \              /            \
   odor = foul      edible = 0    cap-shape = bell   edible = 0
   edible = 577     poisonous=2277 edible = 2371     poisonous = 15
   poisonous = 386                poisonous = 60
  no /       \ yes            no /        \ yes
    /         \                /          \
odor=pungent  edible = 0   edible = 2268   edible = 103
edible = 577  poisonous=210 poisonous = 33 poisonous = 27
poisonous=176
no /    \ yes
  /      \
edible=577  edible = 0
poisonous=0 poisonous = 176
```