```
Week-5
                                 10 ats 25/4/2024
Daision tree IB3
                            gr as propried stogens
  emport numpy as no
  import pandas as political and the second and the second
  di=pd. read_usv('wk')
  dt. head ()
  df. info()
  df, olesoribe()
  dy find_entropy(dt):
      target = df, key()[-1]
       entrupy = 0
       values = df [targu] unique()
        for value in values: 130 to 40 to geod. 300
            traction = df [target]. value counts () [value] /
             cutropy += fraction x np. 1092 (fraction)
        return entropy
   dy build nee (of , her None):
        node = find winner (df)
       target = dt, keysc)[-1]
        att = np. unique (df [node])
        if tree is None: Decorporate sient being
             tree & y task (x) toiloury to -
             tree[Node]= (2
        for value in att:
              sub = get_ subtable (of, node, value)
              diame, counts = np. unique (subtable starget).
                                      noturn_counts= True)
              : 1==(counts)==1:
                   true[nodi][value] = Walle
               else "
                   true [nodi][value] - suilattres (subtable)
         return tree
   true = buildTrue(df)
   impost pprint
    pprint print (tree)
```

Dairion tree ( the arn): painting that I 63 import pandas as pol import numpy as rp import sklearn model relection import secision true from sklearn, tree import plot-tree Af = pd. read\_asv('we') ()oba it dt. head () df.info() dt, is null (). seem () Cols = df. columns [0:-1] i in cos: sns. boxplot (y=d+[i]) for i in cols: plt. show () . [ march ] - moutout X = dt. drap ('Species', aris=1) y = of ['Species] X-train, X-test, y-train, y-test = train\_test\_split (x, y, -ust. size = 0,3) dt = Decision Tree Classifier (max depth = 3) dt, fit(x, y) 4 pred-train = dt. predict (x-train) y-pred = dt. predict (x-test) accuracy\_score(g\_pred, y-test) ELLO = get\_ hour about of product distribus, and = no videou (subt the (dreva) net for Colombia of man of change much a justificial + tailor thewelved est weeter though the property ex tring tring