**Practical no 5**

**AIM:** Implement decision tree learning algorithm for the restaurant waiting problem.

**STEPS:**

Step1: Download the graph viz file from below link and extract it

<https://graphviz.gitlab.io/_pages/Download/windows/graphviz-2.38.zip>

Step2: Install the sklearn , ipython and pydotplus packages.First copy the path of script

in python folder and then change the path of cmd.

Step3: Now install the packages by writing pip install and the packages name.

Step4: Next you have to change the environment variable. Copy the path of graphiz.

Then go to environment and add new path.

Step5: After all this is done write the code and run it . output will be in pdf and png

format.

**CODE:**

from sklearn.tree import DecisionTreeClassifier

from sklearn import datasets

from IPython.display import Image

from sklearn import tree

import os #only for windows

import pydotplus

os.environ['PATH'] += os.pathsep+ "C:/graphviz-2.38/release/bin/"

iris=datasets.load\_iris()

x=iris.data

y=iris.target

clf=DecisionTreeClassifier(random\_state=0)

model=clf.fit(x,y)

dot\_data=tree.export\_graphviz(clf,out\_file=None,feature\_names=iris.feature\_names,class\_names=iris.target\_names)

graph =pydotplus.graph\_from\_dot\_data(dot\_data)

Image(graph.create\_png())

graph.write\_pdf("krunal\_prac5.pdf")

graph.write\_png("krunal\_prac5.png")

**OUTPUT:**





