from flask import Flask, request, render\_template

from flask\_cors import cross\_origin

import sklearn

import pickle

import pandas as pd

app = Flask(\_name\_)

model = pickle.load(open("flight\_model.pkl", "rb"))

@app.route("/")

@cross\_origin()

def home():

return render\_template("index.html")

@app.route("/predict", methods = ["GET", "POST"])

@cross\_origin()

def predict():

if request.method == "POST":

# Date\_of\_Journey

date\_dep = request.form["Dep\_Time"]

Journey\_day = int(pd.to\_datetime(date\_dep, format="%Y-%m-%dT%H:%M").day)

Journey\_month = int(pd.to\_datetime(date\_dep, format ="%Y-%m-%dT%H:%M").month)

# print("Journey Date : ",Journey\_day, Journey\_month)

# Departure

Dep\_hour = int(pd.to\_datetime(date\_dep, format ="%Y-%m-%dT%H:%M").hour)

Dep\_min = int(pd.to\_datetime(date\_dep, format ="%Y-%m-%dT%H:%M").minute)

# print("Departure : ",Dep\_hour, Dep\_min)

# Arrival

date\_arr = request.form["Arrival\_Time"]

Arrival\_hour = int(pd.to\_datetime(date\_arr, format ="%Y-%m-%dT%H:%M").hour)

Arrival\_min = int(pd.to\_datetime(date\_arr, format ="%Y-%m-%dT%H:%M").minute)

# print("Arrival : ", Arrival\_hour, Arrival\_min)

# Duration

dur\_hour = abs(Arrival\_hour - Dep\_hour)

dur\_min = abs(Arrival\_min - Dep\_min)

# print("Duration : ", dur\_hour, dur\_min)

# Total Stops

Total\_stops = int(request.form["stops"])

# print(Total\_stops)

# Airline

# AIR ASIA = 0 (not in column)

airline=request.form['airline']

if(airline=='Jet Airways'):

Jet\_Airways = 1

IndiGo = 0

Air\_India = 0

Multiple\_carriers = 0

SpiceJet = 0

Vistara = 0

GoAir = 0

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 0

Trujet = 0

elif (airline=='IndiGo'):

Jet\_Airways = 0

IndiGo = 1

Air\_India = 0

Multiple\_carriers = 0

SpiceJet = 0

Vistara = 0

GoAir = 0

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 0

Trujet = 0

elif (airline=='Air India'):

Jet\_Airways = 0

IndiGo = 0

Air\_India = 1

Multiple\_carriers = 0

SpiceJet = 0

Vistara = 0

GoAir = 0

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 0

Trujet = 0

elif (airline=='Multiple carriers'):

Jet\_Airways = 0

IndiGo = 0

Air\_India = 0

Multiple\_carriers = 1

SpiceJet = 0

Vistara = 0

GoAir = 0

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 0

Trujet = 0

elif (airline=='SpiceJet'):

Jet\_Airways = 0

IndiGo = 0

Air\_India = 0

Multiple\_carriers = 0

SpiceJet = 1

Vistara = 0

GoAir = 0

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 0

Trujet = 0

elif (airline=='Vistara'):

Jet\_Airways = 0

IndiGo = 0

Air\_India = 0

Multiple\_carriers = 0

SpiceJet = 0

Vistara = 1

GoAir = 0

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 0

Trujet = 0

elif (airline=='GoAir'):

Jet\_Airways = 0

IndiGo = 0

Air\_India = 0

Multiple\_carriers = 0

SpiceJet = 0

Vistara = 0

GoAir = 1

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 0

Trujet = 0

elif (airline=='Multiple carriers Premium economy'):

Jet\_Airways = 0

IndiGo = 0

Air\_India = 0

Multiple\_carriers = 0

SpiceJet = 0

Vistara = 0

GoAir = 0

Multiple\_carriers\_Premium\_economy = 1

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 0

Trujet = 0

elif (airline=='Jet Airways Business'):

Jet\_Airways = 0

IndiGo = 0

Air\_India = 0

Multiple\_carriers = 0

SpiceJet = 0

Vistara = 0

GoAir = 0

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 1

Vistara\_Premium\_economy = 0

Trujet = 0

elif (airline=='Vistara Premium economy'):

Jet\_Airways = 0

IndiGo = 0

Air\_India = 0

Multiple\_carriers = 0

SpiceJet = 0

Vistara = 0

GoAir = 0

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 1

Trujet = 0

elif (airline=='Trujet'):

Jet\_Airways = 0

IndiGo = 0

Air\_India = 0

Multiple\_carriers = 0

SpiceJet = 0

Vistara = 0

GoAir = 0

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 0

Trujet = 1

else:

Jet\_Airways = 0

IndiGo = 0

Air\_India = 0

Multiple\_carriers = 0

SpiceJet = 0

Vistara = 0

GoAir = 0

Multiple\_carriers\_Premium\_economy = 0

Jet\_Airways\_Business = 0

Vistara\_Premium\_economy = 0

Trujet = 0

# print(Jet\_Airways,

# IndiGo,

# Air\_India,

# Multiple\_carriers,

# SpiceJet,

# Vistara,

# GoAir,

# Multiple\_carriers\_Premium\_economy,

# Jet\_Airways\_Business,

# Vistara\_Premium\_economy,

# Trujet)

# Source

# Banglore = 0 (not in column)

Source = request.form["Source"]

if (Source == 'Delhi'):

s\_Delhi = 1

s\_Kolkata = 0

s\_Mumbai = 0

s\_Chennai = 0

elif (Source == 'Kolkata'):

s\_Delhi = 0

s\_Kolkata = 1

s\_Mumbai = 0

s\_Chennai = 0

elif (Source == 'Mumbai'):

s\_Delhi = 0

s\_Kolkata = 0

s\_Mumbai = 1

s\_Chennai = 0

elif (Source == 'Chennai'):

s\_Delhi = 0

s\_Kolkata = 0

s\_Mumbai = 0

s\_Chennai = 1

else:

s\_Delhi = 0

s\_Kolkata = 0

s\_Mumbai = 0

s\_Chennai = 0

# print(s\_Delhi,

# s\_Kolkata,

# s\_Mumbai,

# s\_Chennai)

# Destination

# Banglore = 0 (not in column)

Source = request.form["Destination"]

if (Source == 'Cochin'):

d\_Cochin = 1

d\_Delhi = 0

d\_New\_Delhi = 0

d\_Hyderabad = 0

d\_Kolkata = 0

elif (Source == 'Delhi'):

d\_Cochin = 0

d\_Delhi = 1

d\_New\_Delhi = 0

d\_Hyderabad = 0

d\_Kolkata = 0

elif (Source == 'New\_Delhi'):

d\_Cochin = 0

d\_Delhi = 0

d\_New\_Delhi = 1

d\_Hyderabad = 0

d\_Kolkata = 0

elif (Source == 'Hyderabad'):

d\_Cochin = 0

d\_Delhi = 0

d\_New\_Delhi = 0

d\_Hyderabad = 1

d\_Kolkata = 0

elif (Source == 'Kolkata'):

d\_Cochin = 0

d\_Delhi = 0

d\_New\_Delhi = 0

d\_Hyderabad = 0

d\_Kolkata = 1

else:

d\_Cochin = 0

d\_Delhi = 0

d\_New\_Delhi = 0

d\_Hyderabad = 0

d\_Kolkata = 0

# print(

# d\_Cochin,

# d\_Delhi,

# d\_New\_Delhi,

# d\_Hyderabad,

# d\_Kolkata

# )

# ['Total\_Stops', 'Journey\_day', 'Journey\_month', 'Dep\_hour',

# 'Dep\_min', 'Arrival\_hour', 'Arrival\_min', 'Duration\_hours',

# 'Duration\_mins', 'Airline\_Air India', 'Airline\_GoAir', 'Airline\_IndiGo',

# 'Airline\_Jet Airways', 'Airline\_Jet Airways Business',

# 'Airline\_Multiple carriers',

# 'Airline\_Multiple carriers Premium economy', 'Airline\_SpiceJet',

# 'Airline\_Trujet', 'Airline\_Vistara', 'Airline\_Vistara Premium economy',

# 'Source\_Chennai', 'Source\_Delhi', 'Source\_Kolkata', 'Source\_Mumbai',

# 'Destination\_Cochin', 'Destination\_Delhi', 'Destination\_Hyderabad',

# 'Destination\_Kolkata', 'Destination\_New Delhi']

prediction=model.predict([[

Total\_stops,

Journey\_day,

Journey\_month,

Dep\_hour,

Dep\_min,

Arrival\_hour,

Arrival\_min,

dur\_hour,

dur\_min,

Air\_India,

GoAir,

IndiGo,

Jet\_Airways,

Jet\_Airways\_Business,

Multiple\_carriers,

Multiple\_carriers\_Premium\_economy,

SpiceJet,

Trujet,

Vistara,

Vistara\_Premium\_economy,

s\_Chennai,

s\_Delhi,

s\_Kolkata,

s\_Mumbai,

d\_Cochin,

d\_Delhi,

d\_Hyderabad,

d\_Kolkata,

d\_New\_Delhi

]])

output=round(prediction[0],2)

return render\_template('index.html', prediction\_result="Your Flight price is Rs. {}".format(output))

return render\_template("index.html")

if \_name\_ == "\_main\_":

app.run(debug=True)