本次实验选择编程类工具pyecharts

在Pycharm中新建Python项目，并引入pyecharts，csv等必要包。

在main.py文件中编写逻辑代码

import csv

import datetime

import pyecharts.options as opts

from pyecharts.charts import Bar3D

filename = 'daily-minimum-temperatures-in-me.csv'

datalist = []

years = set()

monthNday = set()

def readCSV(filename):

with open(filename, 'r') as f:

filedata = csv.reader(f)

for i in filedata:

if i.\_\_len\_\_() == 2:

try:

day = datetime.datetime.strptime(i[0], '%Y-%m-%d')

years.add(str(day.year))

monthNday.add(str("{:0>2d}".format(day.month)) + "-" + str("{:0>2d}".format(day.day)))

datalist.append([day, float(i[1])])

except ValueError:

pass

def setToList(years, monthNday):

years = list(years)

monthNday = list(monthNday)

monthNday.sort()

years.sort()

return years, monthNday

def shapeData():

showlist = []

for data in datalist:

formatDate = str("{:0>2d}".format(data[0].month)) + "-" + str("{:0>2d}".format(data[0].day))

date = monthNday.index(formatDate)

year = years.index(str(data[0].year))

temperature = data[1]

showlist.append([date, year, temperature])

return showlist

def draw():

Bar3D(init\_opts=opts.InitOpts(width="1600px", height="800px")).add(

series\_name="数据可视化实验二",

data=showlist,

xaxis3d\_opts=opts.Axis3DOpts(type\_="category", data=monthNday),

yaxis3d\_opts=opts.Axis3DOpts(type\_="category", data=years),

zaxis3d\_opts=opts.Axis3DOpts(type\_="value"),

).set\_global\_opts(

visualmap\_opts=opts.VisualMapOpts(

max\_=25,

range\_color=[

"#313695",

"#4575b4",

"#74add1",

"#abd9e9",

"#e0f3f8",

"#ffffbf",

"#fee090",

"#fdae61",

"#f46d43",

"#d73027",

"#a50026",

],

)

).render("daily-minimum-temperatures-in-me.html")

if \_\_name\_\_ == '\_\_main\_\_':

readCSV(filename)

years, monthNday = setToList(years, monthNday)

showlist = shapeData()

draw()

运行main.py文件，然后在浏览器中打开daily-minimum-temperatures-in-me.html文件，（已安装webpack)

结果如下

