Assignment---Week 6

Time: 2:00-3:50 PM 15/10/2021

Location:505/507

Class: Grade 2020, Computer Science (ANU Joint Program)

Deadline: 23:59 PM 29/10/2021(Temporarily)

Objectives:

1. Define your own class and create some objects
2. Object-Oriented application using a UCI machine learning dataset
3. Develop with Eclipse and try to use third-party libraries
4. How to import and use more Java APIs. (java.util.ArrayList ,java.lang.String,java.util.Comparator java.util.Set java.util.HashMap……)
5. A raw Java Application to implement a regression or classification Demo（Optional ）
6. leetcode problems to improve your basic skills

Description:

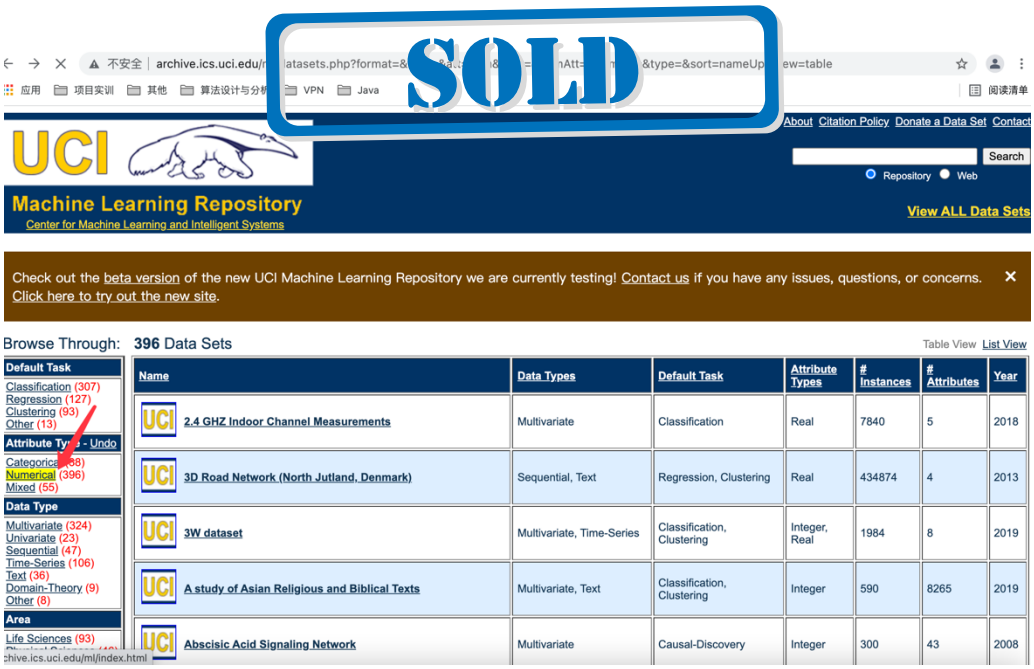
1. Leetcode 349 (Required) and 350(Optional)

2. Implement a Java ML application(part required)

Dataset weblink:

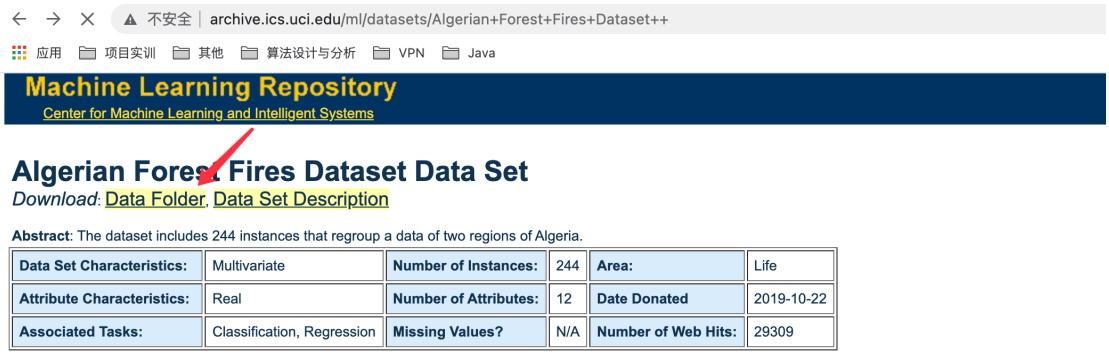
(1) Open and visit UCI machine learning website

http://archive.ics.uci.edu/ml/datasets.php



(2) Download Algerian orest Fire ata Set

http://archive.ics.uci.edu/ml/datasets/Algerian+Forest+Fires+Dataset++



Source:

(3) Define a class to abstract each record and create different object t describe the records (required)

a. dat set means Bejaia Region Dataset

b. attributes containing the columns are ok(From day to FFMC)

c. sort all record objects depending on RH or FFMC column

(4) Choose a machine learning algorithm to implement this application(Classification,Regression) (Optional)

a. Try to use a Machine Learning algorithm to implement this classification.(by Java Programming)

Application implementation requirements:

(1) Show your sorting results in console **or** write in a file

(2) Read data from dataset(you can change dataset file format from csv to txt, then read data or read csv file based on third-party libraries)

Application coding Requirements:

(1) Separate your code in different class file

(2) Encapsulate your class with effective variables and methods in one class.

Java APIs help link:

java. util.Comparator and Comparable interface.

Link: https://www.cnblogs.com/mrnx2004/p/11794219.html

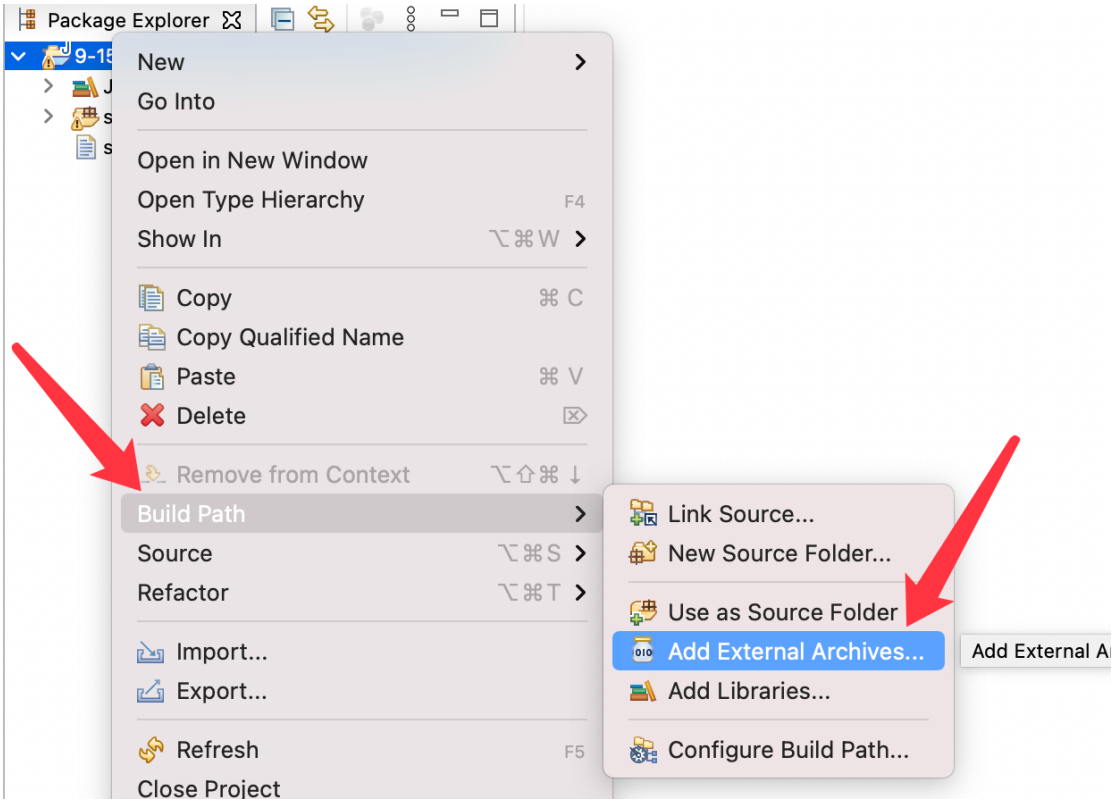
Third-Party libraries:(Strongly Recommended)

How to use them:

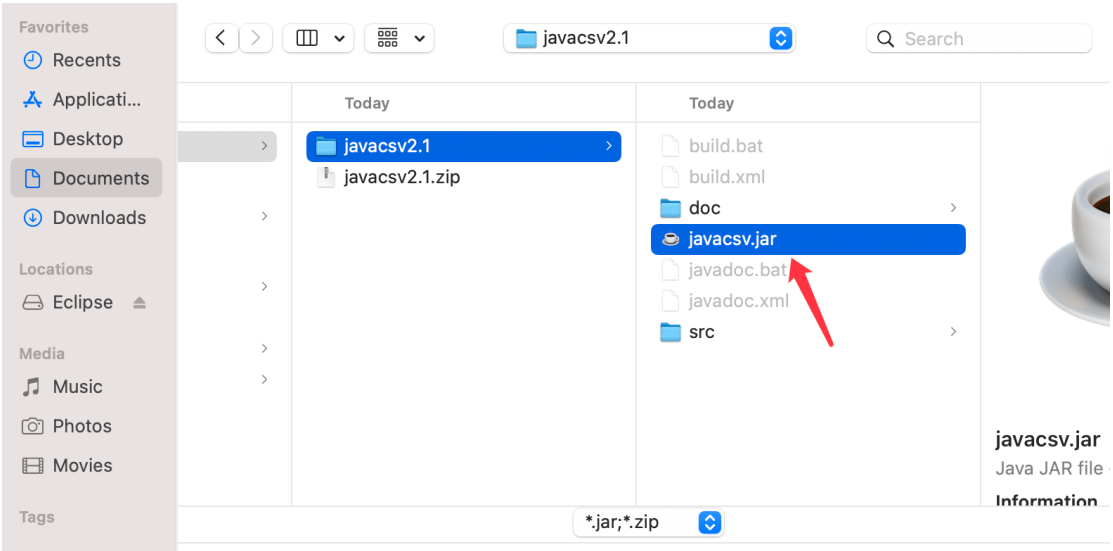
(1) Add *.jar libraries to your project referenced libraries

Step1: unzip javacsv2.1.zip to you local disk

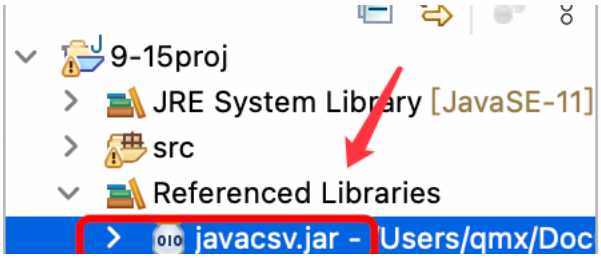
Step2:



Step 3: Add csv.jar into your project



Step4: Project structure is as follows:



Step 5: Use third-party API to read csv file data

API reference is : http://javacsv.sourceforge.net/

(2) Maven dependencies

Introduction is probably presented in chapter10

You can visit some help websites or blogs to get all

Weblink:

https://www.cnblogs.com/bnuvincent/p/6940795.html

Assignment upload requirements: (Important)

(1) Copy 1' s accepted(no syntax errors) java source code to the input box of Chaoxing(with accepted image)

(2) Copy 2' s different .java files code to the input box of Chaoxing(with output image)

Note:

Clear and Clean code is important

Comments are necessary---all in English

Avoid Plagiarism