CIS 36B – 12th Class / Lab Assignment – **10 Points-**

Student Name **Student ID** **Point Total**

Section 1: Define / Answer

1. package- A **Java package** is a mechanism for organizing **Java** classes into namespaces similar to the modules of Modula, providing modular programming in **Java**. **Java packages** can be stored in compressed files called JAR files, allowing classes to be downloaded faster as groups rather than individually.

jar file- JAR files are packaged with the ZIP file format, so you can use them for tasks such as lossless data compression, archiving, decompression, and archive unpacking. These tasks are among the most common uses of JAR files, and you can realize many JAR file benefits using only these basic features.

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UML Diagram

https://weblogs.java.net/blog/potty/archive/2014/01/22/introduction-class-diagrams

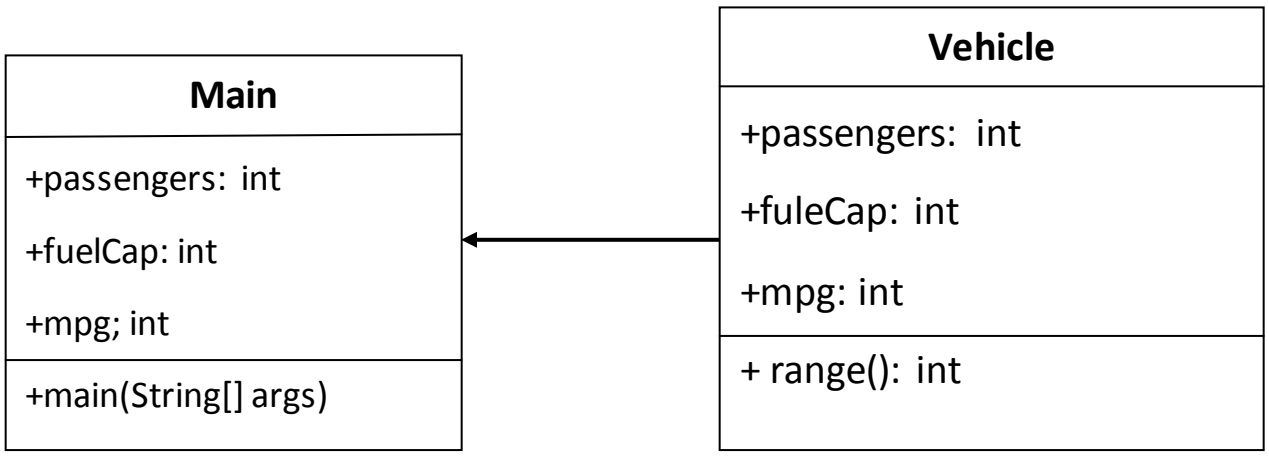
http://pages.cs.wisc.edu/~hasti/cs302/examples/UMLdiagram.html

UML DIAGRAM-

CLASS DIAGRAM- (Explain 3 parts that each Diagram needs)

VISIBILITY MARKERS-

ASSOCIATIONS-



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Task 1:

USE OBJECT ORIENTATED PROGRAM DESIGN TO SOLVE PROBLEM

Update Assignment #11, Task 1.

Create a separate package to do the following.

Create a Parent SuperClass Student. Containing First Name, Last Name, private DOB, Social Security Number.

Create a subclass containing protected class variables Street Address, and Zip Code

Create a subclass containing public Student ID number, Major.

Create a separate Project/package that executes the program.

The program should execute in way that student objects are created. Then create a menu where the user can print various portions of information about a given student.

Override the method for printing in each class to display the required print information.

Create private modifiers for sensitive materials.

Return redacted versions of social security, DOB.

For example – Social security = XXX-XX-8010

DOB – XX/XX/1980

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Attach Snipping Photos Below

****

*** Main Menu: ***

*** Enter # to run program or Quit ***

*** 1) Print Student Name ***

*** 2) Print Student Address ***

*** 3) Print all Student info ***

*** 4) Quit ***

****

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```
1
2   package first;
3
4   public class Student {
5       String firstName, lastName;
6       private String dob, ssid;
7       public Student(String firstName, String lastName){
8           this.firstName = firstName;
9           this.lastName = lastName;
10      }
11
12      public void setdob(String dob){
13          this.dob = dob;
14      }
15
16      public String getdob(){
17          return dob;
18      }
19
20      public void setssid(String ssid){
21          this.ssid = ssid;
22      }
23
24      public String getssid(){
25          return ssid;
26      }
27
28      void print(){
29          System.out.println("FirstName: " + firstName +
30                  "\nLastName: " + lastName +
31                  "\nDate of Birth: XX-XX-" + getdob().substring(4) +
32                  "\nSSID: XXX-XX-" + getssid().substring(5));
33      }
34  }
35
```

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Student Name _____ **Student ID** _____ **Point Total**

```
1
2   package first;
3
4   public class Address extends Student {
5       protected String streetAddress, zipCode;
6
7       public Address(String firstName, String lastName,
8               String streetAddress, String zipCode){
9           super(firstName, lastName);
10          this.streetAddress = streetAddress;
11          this.zipCode = zipCode;
12      }
13
14      public void setstreetAddress(String streetAddress){
15          this.streetAddress = streetAddress;
16      }
17
18      public String getstreetAddress(){
19          return streetAddress;
20      }
21
22      public void setzipCode(String zipCode){
23          this.zipCode = zipCode;
24      }
25
26      public String getzipCode(){
27          return zipCode;
28      }
29
30      @Override
31      void print(){
32          System.out.println("StreetAddress: " + getstreetAddress() +
33                  "\nZipCode: " + getzipCode());
34      }
35  }
36
```

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Student Name _____ **Student ID** _____ **Point Total**

```
1
2   package first;
3
4   public class Info extends Address{
5       String studentID, major;
6
7       public Info(String firstName, String lastName,
8               String streetAddress, String zipCode,
9               String studentID, String major){
10          super(firstName, lastName, streetAddress, zipCode);
11          this.studentID = studentID;
12          this.major = major;
13      }
14
15      @Override
16      void print(){
17          System.out.println("FirstName: " + firstName +
18                  "\nLastName: " + lastName +
19                  "\nDate of Birth: XX-XX-" + getdob().substring(4) +
20                  "\nSSID: XXX-XX-" + getssid().substring(5) +
21                  "\nStreetAddress: " + getstreetAddress() +
22                  "\nZipCode: " + getzipCode() +
23                  "\nStudentID: " + studentID +
24                  "\nMajor: " + major);
25      }
26  }
27
```

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Student Name _____ **Student ID** _____ **Point Total**

```
package first;

import java.util.Scanner;

public class Basic {
    public static void main(String[] args){

    }
    public static void menu(Info[] ary){
        try{
            Scanner input = new Scanner(System.in);
                int option;
                String id;
                System.out.println(
                        "\n***********************************"+
                        "\n*          Main Menus             *" +
                        "\n*1)Print Student Name               *" +
                        "\n*2)Print Student Address            *" +
                        "\n*3)Print all Student Info           *" +
                        "\n*4)Exit                             *" +
                        "\n***********************************\"+");

                do {
                    System.out.print("Please Enter Option: ");
                    option = input.nextInt();
                    switch(option){
                        case 1:
                            System.out.print("Please input Student ID: ");
                            id = input.next();
                            for(int i = 0; i < ary.length; i++) {
                                if(ary[i].studentID.equals(id)){
                                    Student first = new Student(ary[i].firstName, ary[i].lastName);
                                    first.setdob(ary[i].getdob());
                                    first.setssid(ary[i].getssid());
                                    first.print();
                                }
                            }
                            break;
                        case 2:
                            System.out.print("Please input Student ID: ");
                            id = input.next();
                            for(int i = 0; i < ary.length; i++) {
                                if(ary[i].studentID.equals(id)){
                                    Address second = new Address(ary[i].firstName, ary[i].lastName,
                                            ary[i].streetAddress, ary[i].zipCode);
                                    second.setdob(ary[i].getdob());
                                    second.setssid(ary[i].getssid());
                                    second.print();
                                }
                            }
                            break;
                        case 3:
                            System.out.print("Please input Student ID: ");
                            id = input.next();
                            for(int i = 0; i < ary.length; i++) {
                                if(ary[i].studentID.equals(id)){
                                    Info third = new Info(ary[i].firstName, ary[i].lastName,
                                            ary[i].streetAddress, ary[i].zipCode,
                                            ary[i].studentID, ary[i].major);
                                    third.setdob(ary[i].getdob());
                                    third.setssid(ary[i].getssid());
                                    third.print();
                                }
                            }
                            break;

                        case 4:
                            System.out.println("You Exited the Menu.");
                            break;
                        default:
                            System.out.println("Invalid Option");

```

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Student Name _____ **Student ID** _____ **Point Total**

```
74                      }
75                  } while(option != 4);
76              } catch (Exception e) {
77                  System.out.println("Invalid Input");
78              }
79          }
80
81      }
82
```

```
1
2   package second;
3
4   import first.*;
5
6   public class Second {
7
8       public static void main(String[] args) {
9           Info[] ary = new Info[10];
10          ary[0] = new Info("Kachi", "Lau", "Oakland", "94612", "10819338", "CS");
11          ary[0].setdob("01081993");
12          ary[0].setssid("123456789");
13          ary[1] = new Info("Jacky", "Chan", "San Deigo", "94111", "10719922", "Math");
14          ary[1].setdob("07021992");
15          ary[1].setssid("888888888");
16          ary[2] = new Info("Tank", "Lam", "San Franscio", "94512", "10325361", "CS");
17          ary[2].setdob("02021997");
18          ary[2].setssid("111111111");
19          ary[3] = new Info("Kitty", "Lu", "Oakland", "12354", "12345678", "Physic");
20          ary[3].setdob("03031988");
21          ary[3].setssid("777777777");
22          ary[4] = new Info("Ken", "chang", "SanFrancisco", "94512", "10232153", "CS");
23          ary[4].setdob("04041987");
24          ary[4].setssid("222222222");
25          ary[5] = new Info("Ryu", "Kawasaki", "Oakland", "94612", "15123524", "CS");
26          ary[5].setdob("12311993");
27          ary[5].setssid("234567890");
28          ary[6] = new Info("Alex", "Taco", "Oakland", "94612", "21231523", "Math");
29          ary[6].setdob("07071996");
30          ary[6].setssid("579134628");
31          ary[7] = new Info("Chicken", "Chicken", "USA", "12325", "12314823", "CS");
32          ary[7].setdob("01011991");
33          ary[7].setssid("264831597");
34          ary[8] = new Info("Mc", "Donald", "Oakland", "94612", "21353262", "CS");
35          ary[8].setdob("02031995");
36          ary[8].setssid("791346528");
37          ary[9] = new Info("FirstName", "LastName", "Oakland", "94612", "12381234", "CS");
38          ary[9].setdob("08081998");
39          ary[9].setssid("231535648");
40
41          first.Basic.menu(ary);
42
43      }
44
45  }
46
```

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Student Name _____ **Student ID** _____ **Point Total**

```
run:

************************************
*          Main Menus              *
*1)Print Student Name               *
*2)Print Student Address            *
*3)Print all Student Info           *
*4)Exit                             *
************************************"+
Please Enter Option: 1
Please input Student ID: 10819338
FirstName: Kachi
LastName: Lau
Date of Birth: XX-XX-1993
SSID: XXX-XX-6789
Please Enter Option: 2
Please input Student ID: 10819338
StreetAddress: Oakland
ZipCode: 94612
Please Enter Option: 3
Please input Student ID: 10819338
FirstName: Kachi
LastName: Lau
Date of Birth: XX-XX-1993
SSID: XXX-XX-6789
StreetAddress: Oakland
ZipCode: 94612
StudentID: 10819338
Major: CS
Please Enter Option: 4
You Exited the Menu.
BUILD SUCCESSFUL (total time: 18 seconds)
```