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CS 210 – WINTER QUARTER 2019 - TAESIK KIM – TAESIK.KIM@BELLEVUECOLLEGE.EDU

LINE BREAK - 6 pt

– ASSIGNMENT 8 –

CLASSES + ARRAYLISTS + SCANNER + CONSTRUCTOR + OVERLOADING

DUE: **Monday**, **03.18.2019.**, 11:59 P.M.

(line break, 11 pt)

" Do it yourself "
- Taesik Kim, Ph.D.

(line break, 11 pt)

I) (30 pts.) - This assignment revisits the student parsing program from Assignment 5, 6 & 7, but challenges you to restructure the component pieces of the program to create a cleaner, more succinct Main(). You will generate a People class of object and load an ArrayList with person objects, then report the contents of that ArrayList. To do so, you must perform the following:

(line break, 11 pt)

A) (20/30 pts.) - Create a class file "People.java" (which will generate People.class upon compile). People.java will have eight(8) methods to

1) read a .txt file 'people.txt'
2) generate:
   - List of all students AND teachers
   - List of all students OR teachers
   - List of all female or male students OR teachers
   - List of female or male students OR teachers whose age is greater than or equal to given age
   - List of female or male students OR teachers whose age is greater than or equal to given age1 and less than given age2
   - List students OR teachers whose age is greater than or equal to given age
   - List students OR teachers whose age is greater than or equal to given age1 and less than given age2 (line break, 11 pt)

B) (3/30 pts.) – When you instantiate your class with new, you must use the text file name (eg. People p = new People ("people.txt"))

C) (5/30 pts.) – You are required to use "Constructor", "ArrayList" and "Overloading" concepts.

D) Once your People.class is functional, generate a file "Assg08_yourName.java". Assg08_yourName.java should contain only one Main() method.

[Example of Main()]

```
   public static void main(String[] args)throws FileNotFoundException  {
    People p =new People("people.txt");
     p.list();             // List of students AND teachers)
     p.list("s");          // List of students
     p.list("s","f");      // List of female students
     p.list("s","f", 20);  // List of female students whose age>=20
     p.list("s","f", 15, 20); // List of female students whose age>=15 and
age<=20
```

```
      p.list("s", 20);   // List of students whose age>=20
      p.list("s", 15, 20); // List of students whose age>=15 and age<=20
    }
```

(line break, 11 pt)

E) (2/ 30 pts.) - The `main()` method of `Assg08_yourName.java` may not contain more than 5 lines of code.
1) This total does not include comments and documentation
2) This total does not include statements mentioned at the above section A) 2).

F) (-5 pts.) - Include appropriate program documentation and formatting including:
1) Your first and last name
2) Your contact information
3) Your student ID number
4) The date
5) A short description of the program’s function
6) Comments necessary to explain the operation of your program
7) Proper indentation

(line break, 11 pt)

G) Save your file as “Assg08_yourName.java” and upload to Canvas. Also upload “People.java”.(line break, 11 pt)

II) A Sample log of execution is as follow :

**Note: No user inputs are a part of this assignment*

```
 public static void main(String[] args)throws FileNotFoundException  {
    People p =new People("people.txt");
     p.list("s","f", 15, 20);
 }
```

```
List of People
Type: Student, Gender: Female, Age: between 15 and 20
Susan
Olivia
Isabella
```

line break, 11 pt)