**Pseudo Code**

ICS 4U

Mrs. Kirby

April 22, 2016

Group: Tooba, Peter, Daniyal, Bilal, Zak, Caleb

**GUI(Peter)**

**Transfer Data from Excel to Java (Zak)**

* Declare Main
* Get Excel file
* Get sheet 1 (to know which sheet to get)
* Declare variable number of students and initialize to zero
* For loop, counter running from greater than -1
  + Try statement
    - Get cell 1 and (i) which gets the length for the array vertically
    - Number of rows
    - Then increases number of students by one to get the next length
  + Catch if the data is going out of bounds
    - Set counter to -2
    - So the counter can start again
* For loop, counter running from greater than -1
  + Try statement
    - Get cell (i) and 1 which gets the length for the array horizontally
    - Number of columns
    - Then increases by the column variable by one to get the next length
  + Catch if the data is going out of bounds
    - Set counter to -2
    - So the counter can start again
* Create Array and initialize it with the size gotten above
  + String[number of columns][number of students]
* For loop, counter running from 1 to number of students
  + For loop, counter running from 1 to number of columns
    - Try statement
      * Get information from excel
      * Put in Array
    - Catch if the data is going out of bounds
      * Set Null array element to “--”
    - Finally
      * Try
        + If Array Element equal null

Set Null array element to “--”

* + - * + Else

Output Array

* + - Catch if the data is going out of bounds

**Randomize the Data (to solve first come first serve problem) (Daniyal)**

* Create new array called reversed responses
* For loop, counter running from 1 to number of students
  + For loop, counter running from 1 to columns
    - Copy the original array to reversed responses
    - Switch x and y of the array
    - Zak’s Array [column][number Students]
    - Daniyal needs [number Students][column])
* Use Inbuilt library to get shuffler and then randomize the Array
* Make sure the students information stays with the proper name when randomized (part of the inbuilt shuffler)
* For loop, counter running from 1 to number of students
  + For loop, counter running from 1 to columns
    - Output the students and information to make sure shuffler is working

**Sort so “Unsure” comes first, “Yes” comes Second, “No” comes third in the Array (Tooba)**

\*Since any inbuilt sorts need the reverse array the array is not going to be reverted to the original yet

* For loop, counter running from 0 to number of students
  + If array element (s, 4) equals null
    - Output hello
  + Else
    - Switch Array (s,4)
    - Case 1 is "Unsure"
      * Switch Array(s,4) to 1
      * break
    - Case 2 is "Yes"
      * Switch Array(s,4) to 2
      * break
    - Case 3 is "No"
      * Switch Array(s,4) to 3
      * break
* Use in built sort to sort the Array
* Since the inbuilt sort works on ascii values of the letter, had to switch the words to numbers
* Actual code: Need to make the two separate arrays created in the sort have the number of the column being sorted. (**String.valueOf(r1[4]).compareTo(r2[4]));**)
* Make sure the students information stays with the right name when sorted
* For loop, counter running from 0 to number of students
  + If array element (s, 4) equals null
    - Output hello
  + Else
    - Switch Array (s,4)
    - Case 1 is "1"
      * Switch Array(s,4) back to Unsure
      * break
    - Case 2 is "2"
      * Switch Array(s,4) back to Yes
      * break
    - Case 3 is "3"
      * Switch Array(s,4) back to No
      * break
* For loop, counter running from 0 to number of students
  + For loop, counter running from 0 to columns
    - Output the students and information to make sure sort is working

**Sort into Sessions (Bilal)**

Declare Arrays

* Business Cap [3]
* Art Cap[3]
* Drama Cap [3]
* Dance Cap [3]
* Music Cap [3]
* Computer Science Cap[3]
* Tech Cap [3]
* Business Availability [number Students]
* Art Availability [number Students]
* Drama Availability [number Students]
* Dance Availability [number Students]
* Music Availability [number Students]
* ComSci Availability [number Students]
* Tech Availability [number Students]

Declare Variables

* Max Business Cap equal to 30
* Max Art Cap equal to 30
* Max Drama Cap equal to 30
* Max Dance Cap equal to 30
* Max Music Cap equal to 30
* Max ComSci Cap equal to 30
* Max Tech Cap equal to 30
* For loop, counter running from 1 to number of students
  + Set each element in Business Availability to 0
  + Set each element in Art Availability to 0
  + Set each element in Drama Availability to 0
  + Set each element in Dance Availability to 0
  + Set each element in Music Availability to 0
  + Set each element in ComSci Availability to 0
  + Set each element in Tech Availability to 0
* For loop, counter running from 0 to 2 for number of sessions
  + For loop, counter running from 0 to total students
    - If first choice equal to Business
      * If business Availability equal to
        + If business cap[i] less than Max business cap

Create new element in array and put down first choice

Increase variable Business Cap by 1

Set Business Availability[increase with second loop] equal to 1;

* + - * + Else if business cap[i] equal to Max business cap

Second choice

Call sub program and send all relevant information there

If second choice was not put in the array

Third Choice

Call sub program and send all relevant information there

If third choice was not put in the array

fourth Choice

Call sub program and send all relevant information there

If fourth choice was not put in the array

Fifth Choice

Call sub program and send all relevant information there

If fifth choice was not put in the array

Sixth Choice

Call sub program and send all relevant information there

If sixth choice was not put in the array

Seven Choice

Call sub program and send all relevant information there

* + - Else if first choice equal to Art
      * If Art Availability equal to 0
        + If Art cap[i] less than Max Art cap

Create new element in array and put down first choice

Increase variable Art Cap by 1

Set Art Availability[increase with second loop] equal to 1;

* + - * + Else if Art cap[i] equal to Max Art cap

Second choice

Call sub program and send all relevant information there

If second choice was not put in the array

Third Choice

Call sub program and send all relevant information there

If third choice was not put in the array

fourth Choice

Call sub program and send all relevant information there

If fourth choice was not put in the array

Fifth Choice

Call sub program and send all relevant information there

If fifth choice was not put in the array

Sixth Choice

Call sub program and send all relevant information there

If sixth choice was not put in the array

Seven Choice

Call sub program and send all relevant information there

* + - Else if first choice equal to Drama
      * If Drama Availability equal to 0
        + If Drama cap[i] less than Max Drama cap

Create new element in array and put down first choice

Increase variable Drama Cap by 1

Set Drama Availability[increase with second loop] equal to 1;

* + - * + Else if Drama cap[i] equal to Max Drama cap

Second choice

Call sub program and send all relevant information there

If second choice was not put in the array

Third Choice

Call sub program and send all relevant information there

If third choice was not put in the array

fourth Choice

Call sub program and send all relevant information there

If fourth choice was not put in the array

Fifth Choice

Call sub program and send all relevant information there

If fifth choice was not put in the array

Sixth Choice

Call sub program and send all relevant information there

If sixth choice was not put in the array

Seven Choice

Call sub program and send all relevant information there

* + - Else if first choice equal to Dance
      * If Dance Availability equal to
        + If Dance cap[i] less than Dance business cap

Create new element in array and put down first choice

Increase variable dance Cap by 1

Set dance Availability[increase with second loop] equal to 1;

* + - * + Else if dance cap[i] equal to Max dance cap

Second choice

Call sub program and send all relevant information there

If second choice was not put in the array

Third Choice

Call sub program and send all relevant information there

If third choice was not put in the array

fourth Choice

Call sub program and send all relevant information there

If fourth choice was not put in the array

Fifth Choice

Call sub program and send all relevant information there

If fifth choice was not put in the array

Sixth Choice

Call sub program and send all relevant information there

If sixth choice was not put in the array

Seven Choice

Call sub program and send all relevant information there

* + - Else if first choice equal to Music
      * If Music Availability equal to
        + If Music cap[i] less than Max music cap

Create new element in array and put down first choice

Increase variable Music Cap by 1

Set Music Availability[increase with second loop] equal to 1;

* + - * + Else if Music cap[i] equal to Max Music cap

Second choice

Call sub program and send all relevant information there

If second choice was not put in the array

Third Choice

Call sub program and send all relevant information there

If third choice was not put in the array

fourth Choice

Call sub program and send all relevant information there

If fourth choice was not put in the array

Fifth Choice

Call sub program and send all relevant information there

If fifth choice was not put in the array

Sixth Choice

Call sub program and send all relevant information there

If sixth choice was not put in the array

Seven Choice

Call sub program and send all relevant information there

* + - Else if first choice equal to Comp Sci
      * If Comp Sci Availability equal to 0
        + If Comp Sci cap[i] less than Max CompSci cap

Create new element in array and put down first choice

Increase variable Comp Sci Cap by 1

Set Comp Sci Availability[increase with second loop] equal to 1;

* + - * + Else if Comp Sci cap[i] equal to Max Comp Sci cap

Second choice

Call sub program and send all relevant information there

If second choice was not put in the array

Third Choice

Call sub program and send all relevant information there

If third choice was not put in the array

fourth Choice

Call sub program and send all relevant information there

If fourth choice was not put in the array

Fifth Choice

Call sub program and send all relevant information there

If fifth choice was not put in the array

Sixth Choice

Call sub program and send all relevant information there

If sixth choice was not put in the array

Seven Choice

Call sub program and send all relevant information there

* + - Else if first choice equal to Tech
      * If Tech Availability equal to 0
        + If Tech cap[i] less than Max tech cap

Create new element in array and put down first choice

Increase variable tech Cap by 1

Set Tech Availability[increase with second loop] equal to 1;

* + - * + Else if tech cap[i] equal to Max tech cap

Second choice

Call sub program and send all relevant information there

If second choice was not put in the array

Third Choice

Call sub program and send all relevant information there

If third choice was not put in the array

fourth Choice

Call sub program and send all relevant information there

If fourth choice was not put in the array

Fifth Choice

Call sub program and send all relevant information there

If fifth choice was not put in the array

Sixth Choice

Call sub program and send all relevant information there

If sixth choice was not put in the array

Seven Choice

Call sub program and send all relevant information there

**Sort Students into different arrays based on their school and then sort them alphabetically (Tooba)**

* For loop, counter running from 1 to number of students
  + For loop, counter running from 1 to columns
  + Transfer students from original array to Glen Cairn
  + Sort students Alphabetically in respective array
* For loop, counter running from 1 to number of students
  + For loop, counter running from 1 to columns
  + Transfer students from original array to W.O Mitchell
  + Sort students Alphabetically in respective array
* For loop, counter running from 1 to number of students
  + For loop, counter running from 1 to columns
  + Transfer students from original array to Katimivik
  + Sort students Alphabetically in respective array