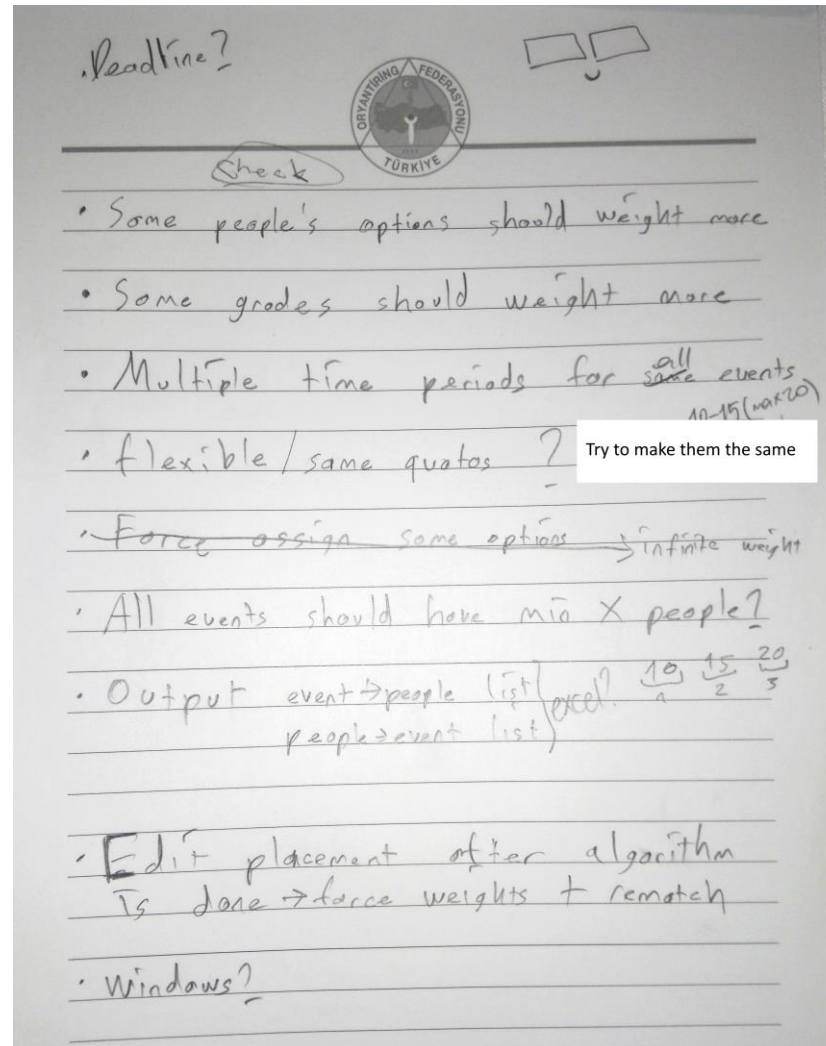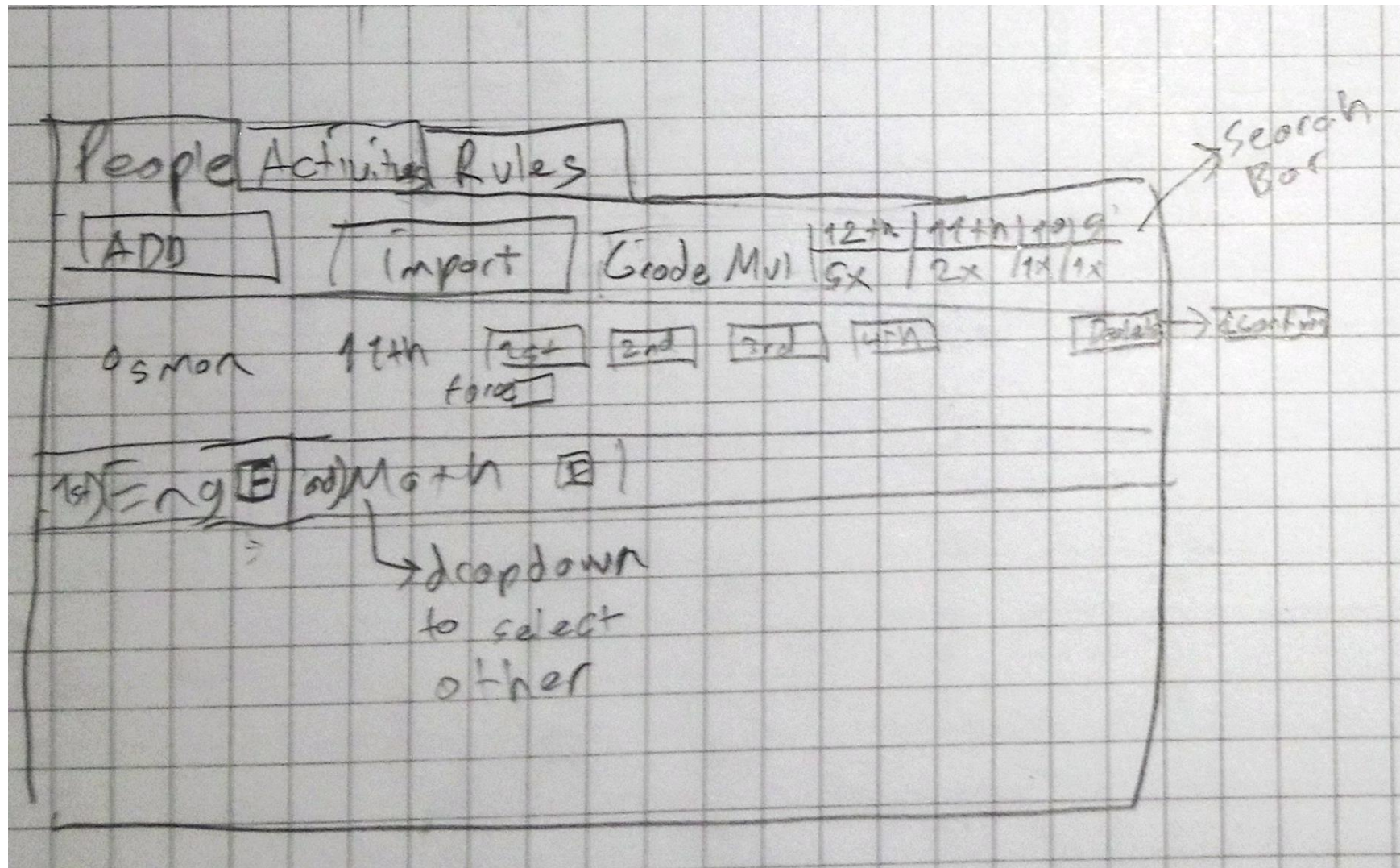# Criterion D: Product design—Requirements

The notepad used to check the requirements with the client after the first interview:
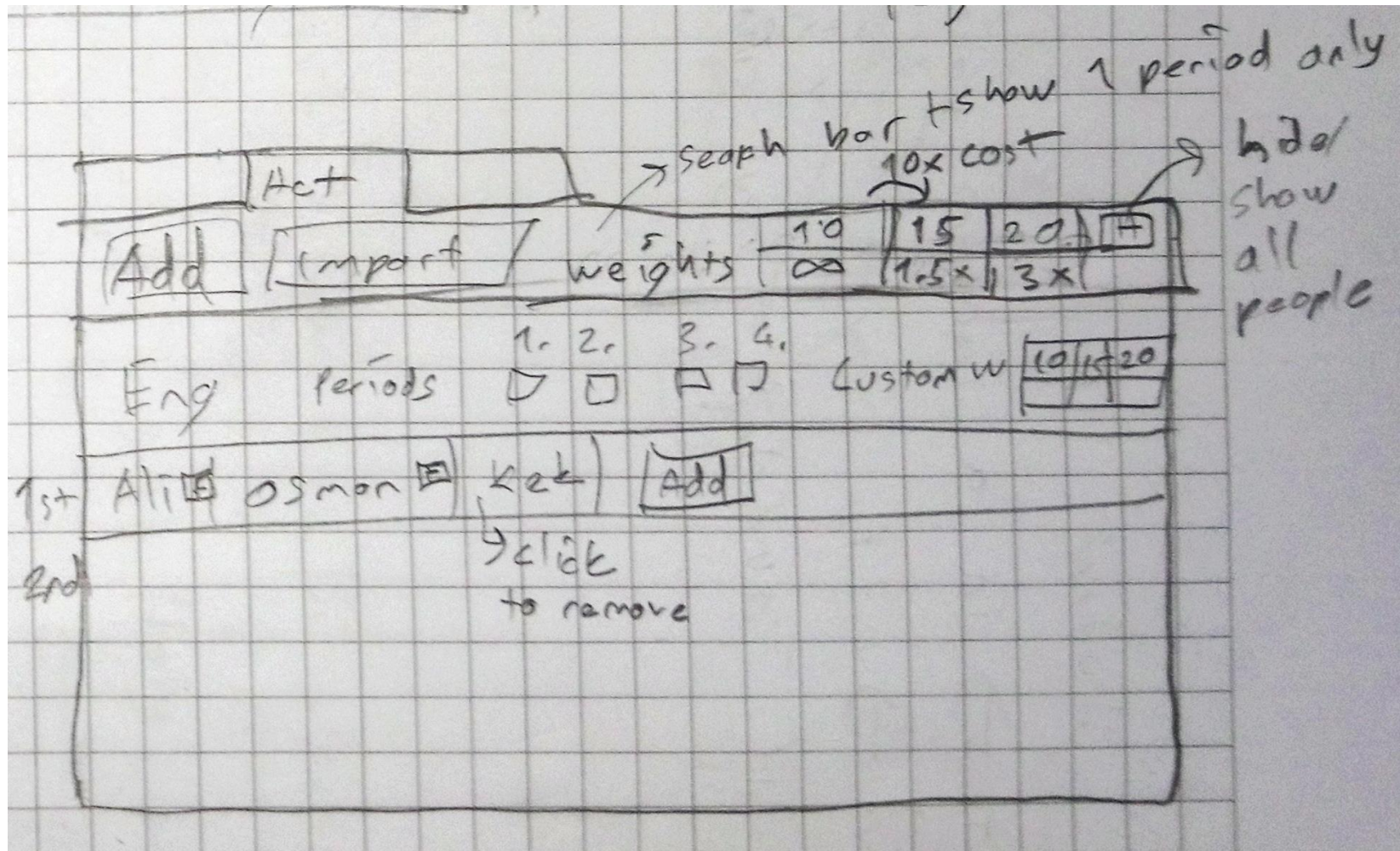

Handwritten notepad notes:

- Deadline?

Check

- Some people's options should weight more
- Some grades should weight more
- Multiple time periods for ~~same~~ all events   10-15 (max 20)
- flexible / same quotas ?   Try to make them the same
- ~~Force assign some options~~ → infinite weight
- All events should have min X people?   10, 15, 20
- Output event → people list (excel?)   1   2   3
  people → event list
- Edit placement after algorithm is done → force weights + rematch
- Windows?

Overall structure of the People UI

Overall structure of the Activity UI

Internal Code Structure

Master

periodCount : Int
allStudents : Student []
allActivities Activity []

ImportFromExcel ()
ImportFromInternalSave ()
ExportToInternalSave ()
Export ()

ForceStudentDecision (Student, DecisionIndex)
AssignAllStudents ()

Student

grade : Int
name : String
choices : Activity [] []
assigned : Activity []

Activity

period : Int
name : String
students : Student []

List of resources and techniques

Resources	Details
Stack Overflow (https://stackoverflow.com)	A forum which people can ask and answer various coding related questions.
OpenPyXL Documentations (https://openpyxl.readthedocs.io)	The documentation to the excel library I will be using for my project
Tkinter Manual (https://www.tcl.tk/man/tcl8.5/)	The manual to the Tkinter UI library I will be using for my project
Python Documentation (https://docs.python.org/3/)	General Python documentation
Effbot Tkinterbook (http://effbot.org/tkinterbook/)	A helpful site about the Tkinter library, as the Tkinter manual can be hard to use.

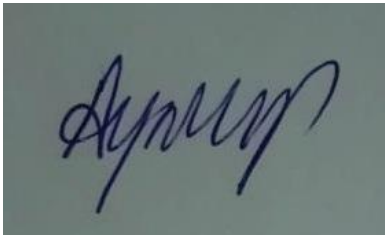| Techniques	Details
Use of Python	The application will be coded with Python
UI	The application will have a UI with buttons and tabs.
Classes	The application will have multiple classes
Functions with parameters, Arrays, loops, if-then	The application will use functions with parameters, arrays, loops, if-then and other programming concepts.

Test plan

Test item	Test data	Part of system tested	Expected outcome	Actual outcome	Comments	Ref in product
Cover page testing – REQUIRED ELEMENT FOR CRITERION G						
Web pages load from the cover page in three different locations	**File naming to ensure home page is called Index.htm**	**Links on cover page are relative**	**Loads as required from 3 different locations**			
Product testing						
Student and Seminar info importing	Try to import a specifically formatted excel file	Importing	All data in the file is imported correctly	Yes		
Minimum & Maximum Student requirements for the seminars can be changed	Try to change the minimum & maximum student requirements	Settings	The values can be changed properly	Yes	The settings can be changed from a different file	
Students can be force assigned to activities	Try to force assign some students	Assigning	Every student can be properly force assigned	Yes	This action computationally expensive (slow)	
Student grades are taken into consideration when assigning to activities	Check student assignments with different grades	Assignment algorithm	High grades are assigned to their top choices more commonly	Yes	Sometimes behaves unexpectedly	
The algorithm correctly assign students	Try the algorithm with a variety of student configurations	Assignment algorithm	The students are assigned correctly	Yes	Some students were assigned very badly	

Students can be reassigned after the algorithm is run	Try to reassign students after running the algorithm	Assigning	Every student can be reassigned	Yes		
The algorithm can run multiple times	Try to run algorithm again after force assigning different students	Assignment algorithm	Algorithm can run any number of times	Yes		
The assignments can be exported	Try exporting the assignments after running the algorithm a few times with different students	Exporting	The exported file is as expected	Yes		
The UI is working and correct	Check the UI after various events	UI	The UI works as expected	Yes		
Search bar	Try to search students	UI	The search bar works correctly to change the UI to show only the wanted students	Yes		

Agreement of client

I confirm that the requirement specification meets my needs and the designs above are appropriate for the creation of the product.

Client: Ayşin Zeynep Ertaş