

UnBias: Questionnaire Part 2

ID _____

Consider the problem of allocating coursework topics to students where each student must be assigned exactly one topic, and each topic can only be assigned to one student.

Students express their preferences by assigning every topic a score on a scale from 1 to 7 representing how happy they would be if the topic were assigned to them (1 = very unhappy, 2 = unhappy, 3 = slightly unhappy, 4 = indifferent, 5 = slightly happy, 6 = happy, 7 = very happy).

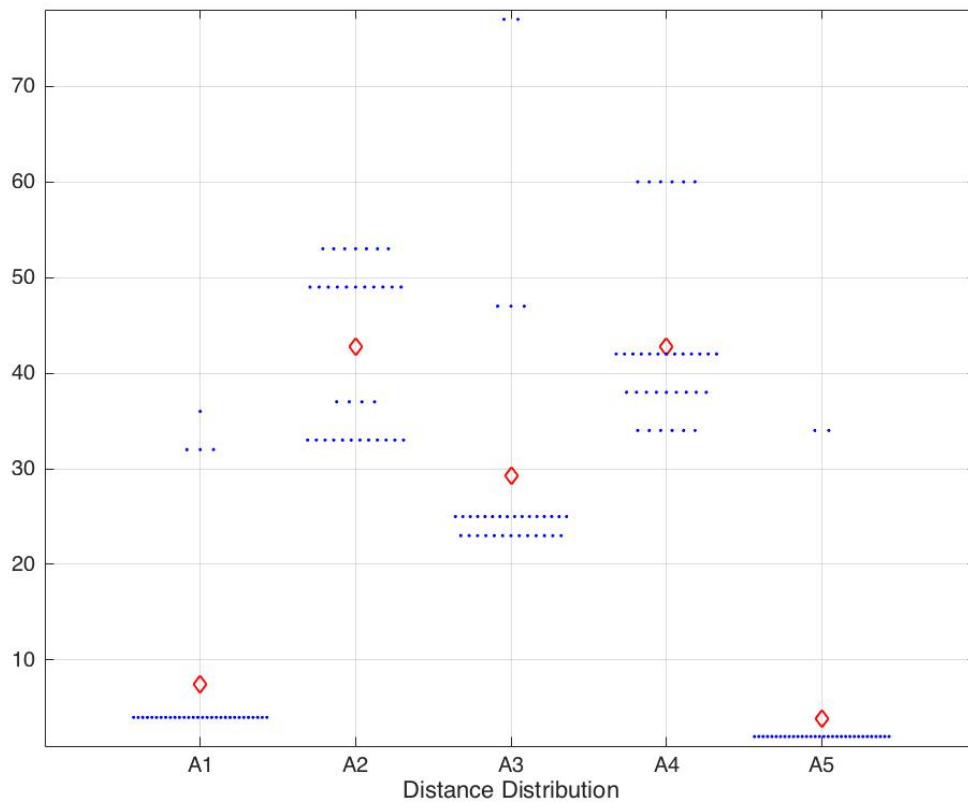
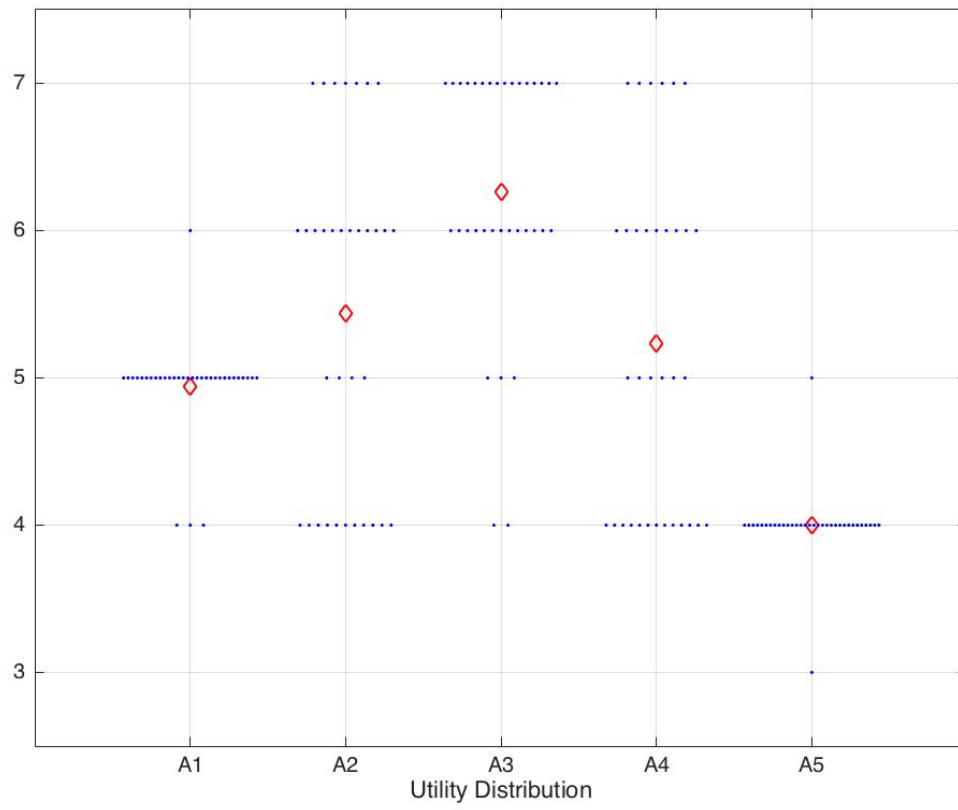
The graphs below show the distribution (blue dots) and the mean (red diamond) of students' utilities and distance between the utilities of all students computed by different algorithms.

Student's utility = the happiness level achieved based on the score the student gave to the project the algorithm assigns to her

Student's distance = the total difference between the student's utility and those of all other students, given the projects assigned to everybody by the algorithm

For each algorithm, the table below shows the sum of all student's utilities (total utility) and the sum of students' distances for all students (total distance).

	A1	A2	A3	A4	A5
Total Utility	168	185	213	178	136
Total Distance	252	1454	994	1452	132



The following is an informal description of how each algorithm works:

Algorithm 1 (A1) minimises the total distance while guaranteeing at least 70% of the maximum possible total utility.

Algorithm 2 (A2) maximises the minimum individual student utility while guaranteeing at least 70% of the maximum possible total utility.

Algorithm 3 (A3) maximises total utility.

Algorithm 4 (A4) maximises the minimum individual student utility.

Algorithm 5 (A5): minimises total distance.

