**About algorithm**

Algorithm, by which program makes timetable for university, consists of many loops. In order to input different data such as name of the course, faculty’s name, room capacity, room name we created four .txt files: “students.txt”,”room.txt”,”faculty.txt”, “course.txt”. Now to use this data classes for each .txt document were created and named same as .txt files. 4 header files were created and as main class we chose course.h and it has 3 variables: coursecode,courename and coursetype and remaining three headers were linked to this class. The linking element of teacher, course and student group is coursecode and using class inheritance connection among 4 header files was made.Then using fstream library, data from the .txt files became the input data.

Each of the courses has almost the same loop and it works identically to sample of **BENG1** loop. Firstly, it starts constructing the schedule for BENG1 by randomizing any required courses for the group and time slots. Then, to show that the rooms and time slots have been chosen already, the program saves the values for the rooms and time slots above. Also, it was important to emphasize that all of the 1st year engineering groups had to visit the same lectures at the same time slots and room (in our case orange hall). Important aspect of program is that it also checks capacity of rooms and total number of student in a given group (note: it’s especially important to check capacity of rooms for 1st year student groups). After, step-by-step, the program continues to constructing the schedule by the same algorithm for 2nd year, 3rd year and 4th year students.