ANKARA UNIVERSITY
**Computer Engineering**
2017-2018 Fall Semester
COM337 Computer Graphics
Coursework 3

You can work in pairs and make only one submission for your group.

You are supposed to implement a hierarchical model for modeling and animating a humanoid model. Your model will be similar to the figure below but it will be three-dimensional (3D). Therefore you need to use 3D shapes such as cylinders and boxes instead of 2D ones like rectangles.
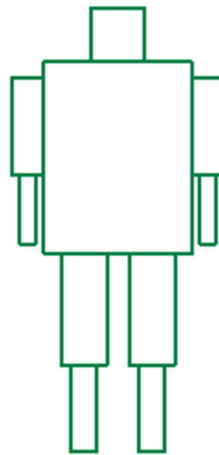
Essentially, you will write a sequence of function (or display list) calls with appropriate transformations and transformation parameters and when you execute that segment, it should produce a hierarchical model of a 3D humanoid.

You will also animate your model. To achieve this, you should be able to easily give a posture to your humanoid by specifying some details like the joint angles. If you can also interpolate the joint angles and other transformation parameters between two given sets of values, then you can enter some postures as keyframes and animate the figure by interpolation.

You should demonstrate a sample animation of some behavior, such as walking, running, or a more complex behavior (like a human jumping over a hurdle). You should be able to save your animations and load and play them back. You can save the animations in the form of text files containing the keyframe numbers and joint parameters (both translation and rotation parameters) for each frame. Intermediate frames between the keyframes must be filled using simple interpolation techniques, such as linear interpolation.

Grading will be based on the essential functionality and the quality of the animations.

Warning

Your solutions will be analyzed using code similarity software. You are free to discuss with your friends but your code should be your own work. If there is unacceptable level of similarity with others'

solutions, it will be treated as plagiarism. In such a case, Higher Education Council (YÖK) regulations will be strictly applied.

Deadline and Submission

You should complete your work and send your source code to compeng.com337@gmail.com until **23:59 on December 24, Sunday**. Demo hours will be announced after the submission deadline.