## UNIT C Lab, part 2 : RoboCupJunior Dance

1. Design a program for a robot that can DANCE to music.

   You will be graded on the following criteria for your group assessment:

   | criteria | points |
   |---|---|
   | Robot Design and Construction (2 points) | |
   | Programming and Preparation (2 points) | |
   | Use of Sensors (1 point) | |

2. You can also change the robot's body structure and dress it up in a costume!

3. During your lab session, plan out the robot's dance steps.

   (a) First, pick a song for the robot to dance to. Name your song and artist.

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   _____

   (b) Then, decide on the choreography. It may help to get up and walk through the moves yourself.

   (c) Write down the moves you want your robot to perform. For example, go forward for 1 second, turn left and go forward again for 1 second.

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   _____

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(d) Then translate your natural language (i.e., English) description of the steps (moves) into RoboLab commands. Draw the RoboLab icons here.

(e) It is very important to plan your program ahead of time, otherwise you will waste time "hacking" and not really thinking about what you are doing. While it is okay to experiment to see what different steps will look like, be careful not to run out of time. Make sure that you and your group will be able to finish the challenge!

(f) When your dance is choreographed on paper, you can use any remaining time to modify the robot's body and make a costume for it.

(g) After you finished your planning, create the program in RoboLab for the robot to dance to music.

(h) What did your robot do? Is that what you expected? Write your answer below.

(i) Go through the *iterative process* of *modifying* your program until it works! Then in the space below, draw your code: