

# Just Dance

**Model Name and Number: Just Dance YE.535**

**Topic:** This is the final lesson of the program, it prepares the students for the show that will present to the parents next week.

**Accessory Tools:** 6 straight nail beams, and 2 large wheel rims.

**Lesson's Goals:**

- ❖ The students will participate in creating a show for the parents, each student will present according to their level.
- ❖ The students will program the robot to dance, using advanced technology.

**Lesson Structure**

1. Explain the model built in class
2. Lesson structure plan
3. Flow chart - algorithm
4. Construction
5. Programming
6. Dismantle and rearrange the Young Engineers kits - 10 minutes before class dismisses

**Explanation of the model built in class:**

The model is built to look like a person and has the capability of moving in all directions. The model is moved by two large motors, to ensure that the hands move in opposite directions a medium-sized engine is fitted.

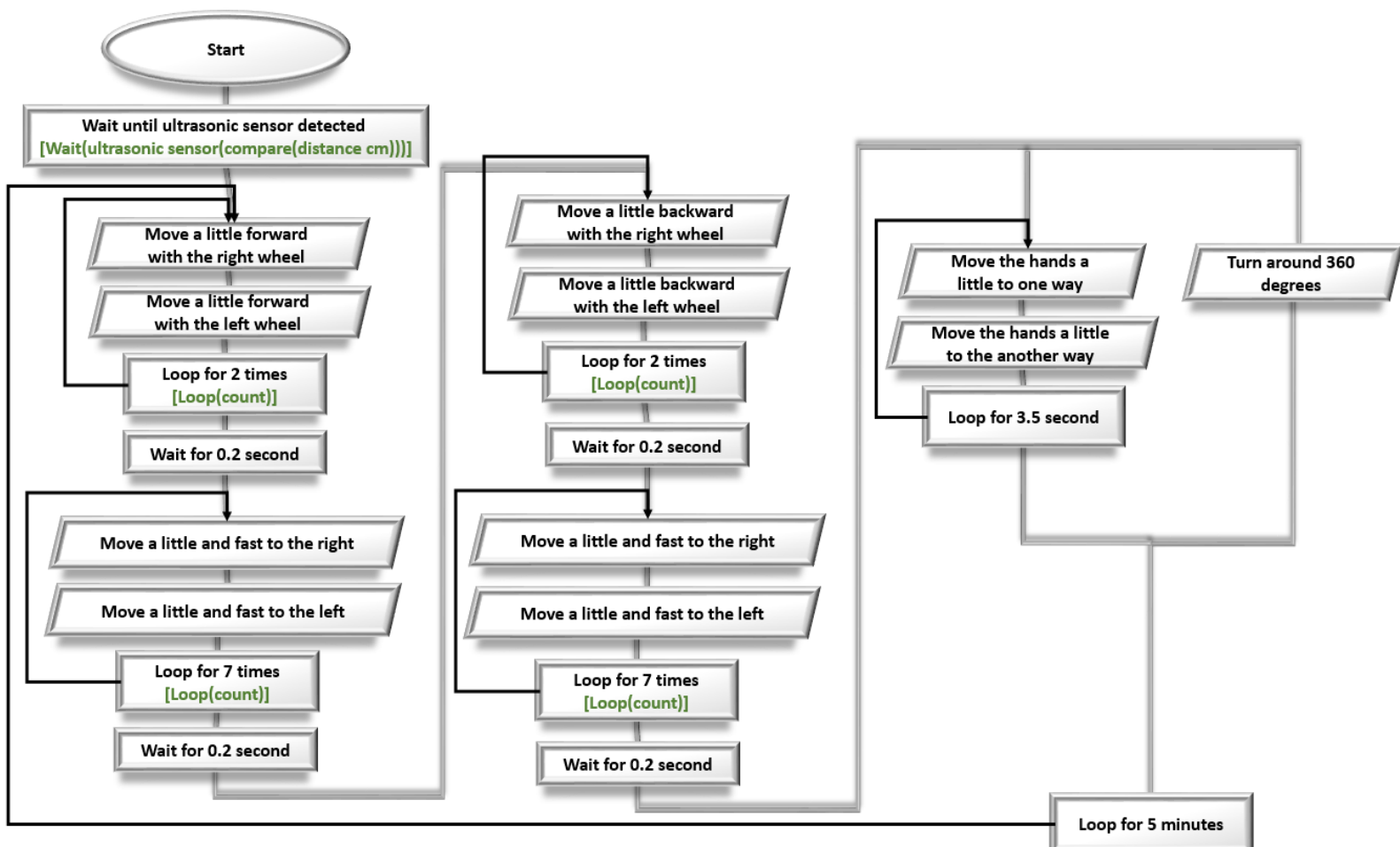
An ultrasonic sensor detects the motion causing the model to move. We can further explain this, as when the student places their hand in front of the sensor, it will cause the model to dance. The move is achieved by each student removing their hand from the sensor. Therefore, it's important that all the models are in the correct position and timed correctly. When the cue is given, each model moves accordingly (each student is in charge of their model).

The instructor must explain to the students that in the next lesson, we will show the parents the dance (all what we practiced and built in this lesson). All the models will dance similarly, as they are all symmetrical and in the equal distance of each other.

### Planning the Lesson:

1. **Choosing the song for the class model dance:** choosing the type and choreography. If the student's own smartphones and internet, you can recommend searching for inspiration on various music outlets such as YouTube.
2. **Writing a flowchart of the model programming:** The objective is to plan the dance movements. This is achieved by the group or choosing a representative of each team to work on the flowchart with the instructor when the other team members build the model.
3. **Building the dancer model** by a team representative without any improvements.
4. **Programming the model:** according to the flowchart written by the team or the representative. In addition, check the operation of the model.
5. **Dress rehearsal:** The operation of all the models at the same time, checking the smooth operation of the programming.
6. **Saving the programming** in a file with the instructor or copying the flowchart to a page kept with the instructor to be implemented in the following lesson - the presentation to the parents.

### Operational Algorithm (Example):



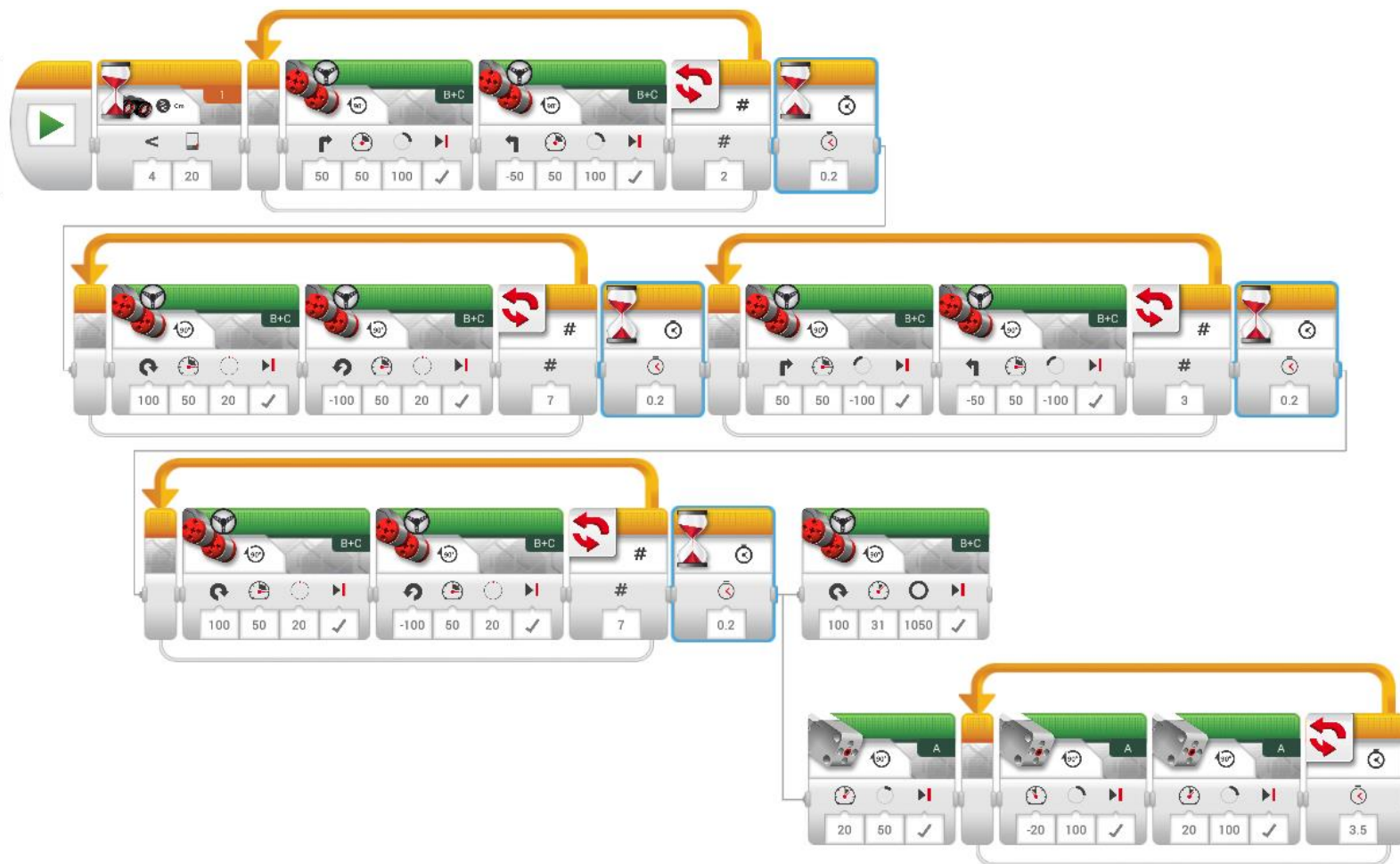
## Programming - (Examples):

### Programming a Hip Hop dance:



- The pause commands, marked in blue are there to create breaks between the moves. The pause emphasizes the movement and prevents the model's Inertia from the previous movement, and therefore impacting the next movement.

## Programming a Salsa dance:



- The pause commands, marked in blue are there to create breaks between the moves. The pause emphasizes the movement and prevents the model's Inertia from the previous movement, and therefore impacting the next movement.

### Notes for the instructor:

- ✓ The programming given in this lesson plan is only an example for the Hip Hop and Salsa dances, a flowchart only exists for Salsa.
- ✓ Explain to the students (or the representatives) exactly what movements the robot is capable, to prevent them from planning unachievable movements.
- ✓ Direct and help the representatives plan the dance, whilst leading them to choose a dance composed of simple movements, that do not require punctuality or a complicated code (the code can be rather long)
- ✓ This is an important lesson as it represents the company and its activities. Be prepared for this lesson and make the utmost potential (marketing, professional high point for the children).