Working of To and Fro Robot:

The project starts with making the case design of our prototype. The design is made such that it does not hinder the movement of any part. We should ensure that the weight is not concentrated, rather, it should be evenly distributed. This is done so as to monitor the stress-strain aspects of our robot. Also, the prototype should be light weighted so that the motor is successful in locomotion.

The next step is to design the Arduino board. We need to decide the input and output pins correctly. It is followed by making the Arduino code. The code is divided into two parts. The first part is for giving directions to the robot and defining its path. The other part is for retracing the path. Case 1 to Case 4 makes the robot move in all directions. The path is memorized and retraced with alternate directions. The alternate direction pairs are as follows:

1. Forward - Backward
2. Left - Right

Now comes the work of assembly and connections. All the components are now arranged and set according to our cad structure. Also, the Arduino board is connected to the L289N motor driver ,which is further connected to the motor and in turn with the battery. We need to make sure that all the connections are proper and not lose.