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| Theme | Study on running and attitude control of a pendulum type moving body inverted with two wheels ~ Running of obstacles in the stairs ~ |
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| Summary | In Embedded system, even if incorporate program into product not everything goes well expected by external influences.  Because there is a limit to the analysis on PC, it is necessary to find problem finding ability and problem solving skills obtained by repeating data analysis and trial and error for fill a gap between the simulation and the actual behavior.  By the way, there is "LEGO Mindstorms EV3" as a teaching material for even without knowledge and experience we can experience software development and only the part that incorporates it into hardware.  Anyway, in this study, we develop control algorithms for autonomous mobile robots using "LEGO Mindstorms EV 3" to acquire problem finding ability and problem solving skills in the field of information systems.  The autonomous mobile robot has wheels of two-wheels, a tail motor, an ultrasonic sensor, a gyro sensor, a light sensor, a touch sensor, and is capable of two-wheels invert and line tracing traveling.  Stepped obstacle as a condition of running, after the robot climbs the first stage from the left side of the figure below, it is getting off from the second stage to the right.  However, need to turning without derailing at each stage. |