

Sample Project 3 – Piano

C

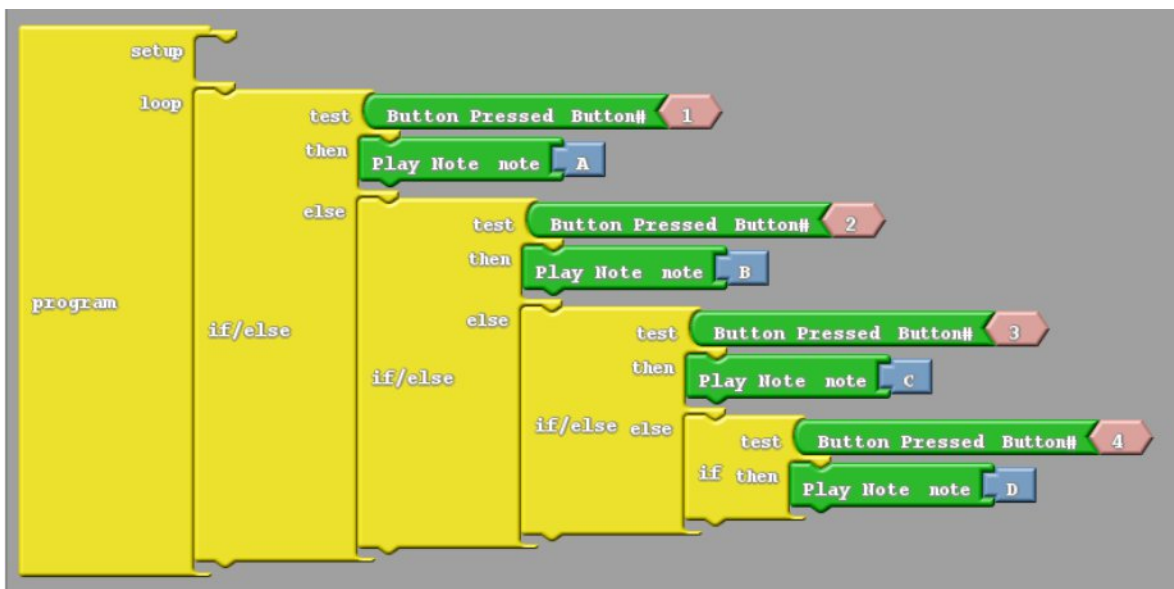


A basic “C” implementation of Project 3 generally includes functionality for only some of the buttons or doesn’t allow easy use of multiple buttons simultaneously or in quick succession. Once students have figured out how to comfortably use the shield’s buttons to interact with the speaker, they should be encouraged to make their basic program work as well as possible with multiple notes available and easy use. After this, they can add other features or consider experimenting with the keyboard blocks.

[Video](#)

TODO: C level video

B

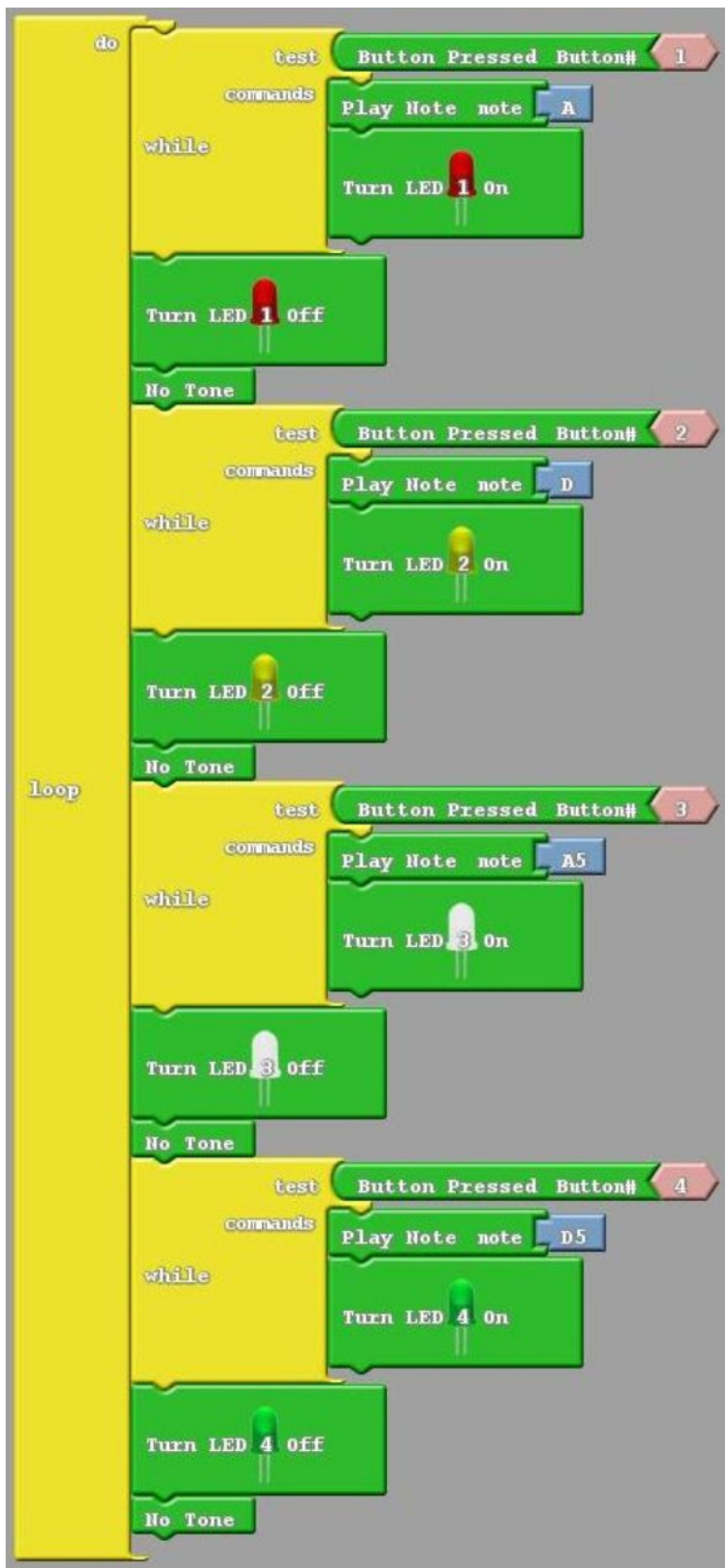


A “B” implementation of Project 3 is one which works well but does only the minimum for the project. The buttons can all be used to play notes (which play cleanly and are easy to transition between), but the student may not have used his/her creativity to make the project his/her own. Students at this level should be encouraged to use the LEDs or try to use the keyboard in order to make their programs more fun and interesting.

Video

TODO: B level video

A



For an A on Project 3, students should again go above and beyond the basic requirements. An "A" level piano project will work consistently and well to recognize button presses and play notes. It will also do something interesting and extra, whether that is lighting up the LEDs which correspond to the buttons, making use of the keyboard blocks to use the keyboard in addition to (or instead of) the buttons, using the distance sensor somehow, or allowing multiple buttons to be used at once for different notes to play. Students comfortable enough with block programming to produce "A" level piano projects should be encouraged to pursue programming themselves, since they will have a good understanding of the fundamentals based on their mastery of this course and its projects.

[Video](#)

TODO: A level video