Assignment 1

COS10004

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Description

The circuit is working on mainly Three tasks that we learned in the first 4 weeks of tutorials. These tasks were used and modified according to the assignment, the tasks being:

1. Half adder for pause/play functions
2. Stacks and Shift registers for Volume control
3. Use of Mod10 Inspired from Mod6 Buffer for Track Control
4. Use of D-Flipflop for save state

The half adder’s play button also acts as an ON/OFF button for the player. The data from Play is transferred to flip flops and passed through their Reset pins. When the player’s volume is being adjusted a toggle to increase or decrease mode is provided to make things simpler to change the sides in which the volume moves. This can be controlled by the button provided. The data from half adder is feeded into the reset pins of the D flipflops reset pins with a NOT gate to make sure the volume lights switch off when the play mode is turned off.

The mod 10 has been duplicated to provide support for tens and one’s place. The data is sent from mod 10 for unit’s place to tens place mod 10 which increments every time units mod10 crosses value 9. The counter then goes back to initial 01 after 99.

The mod10 acts as track control which can be tweaked using the buttons provided.

Any unresolved problems with your design

* Can’t figure out bidirectional track skipping
* Stage 5

