Bit wave

A screen shot of a computer

Description automatically generated

Output Table

A close-up of a number

Description automatically generated

Summary

* The design takes in a 32 bits input as word\_in
* Checks for a 4-bit set of 1101 and marks the index of the MSB of the set
* If the set is not found in the first 4 bits the index shifts one bit to the right and looks at the next 4 bits
* Once the set is found the index of the MSB is reported as index\_out
* If all 32 bits are checked OR a set of 1101 is not found index\_out becomes zero