

Frequency generators

This project required a lot of brainstorming to figure out a way of making a frequency generator. The first thing that was very challenging is how can I make the program do the sorting and matching. To put it differently, how it can read the number of frequencies needed and then decide which timer should be used for each frequency. To achieve that, I defined some indicator. For example, if the user wants to generate a number of frequencies, he should firstly enter the number. As long as the user did not press any other button, the code defines the number entered as the number of frequencies. Then, he has to press one of the three indicators / to identify the value of frequency I, - for frequency II and + to identify the value of frequency III. Thereafter, he should enter the second type of indicators to generate the needed number of frequencies and these indicators are as follows

= to generate freqI

X to generate freqII

ON/OFF to generate freqIII

Furthermore, the code goes in a series of searching atmega32 datasheet based frequencies and prescalers to determine what fits the needed value.