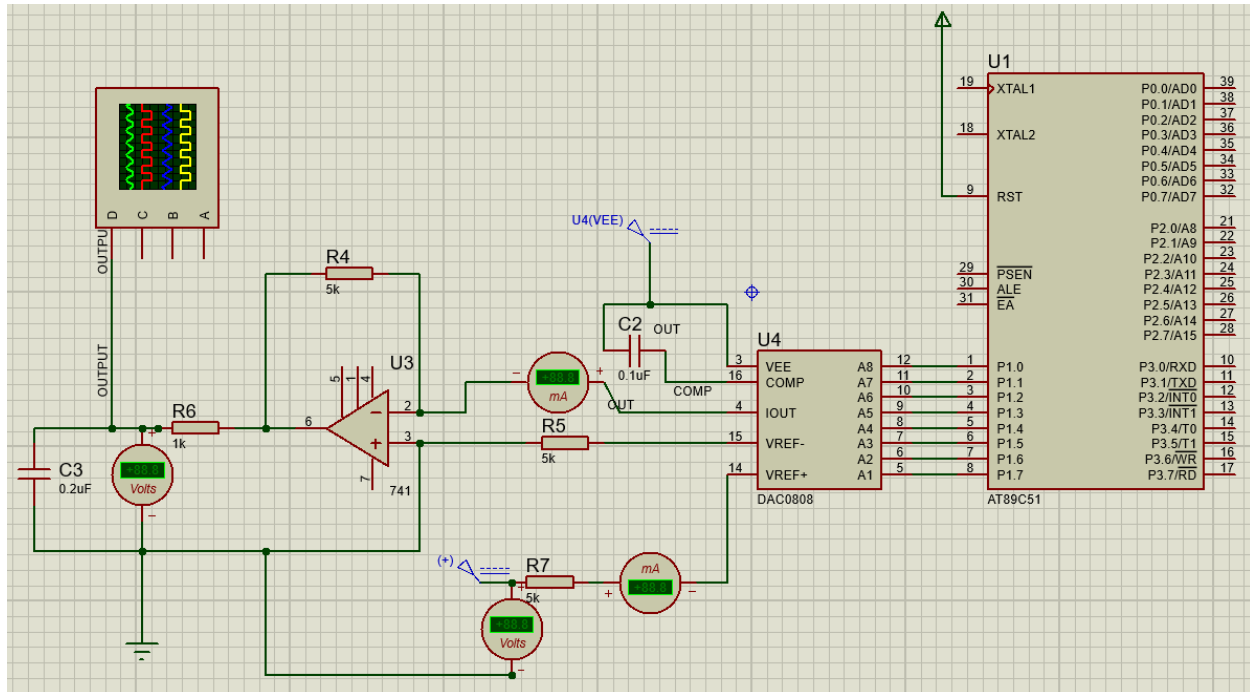


## Task\_8

### Interfacing DAC 0808

Deadline June 27, 2022



```
#include <reg51.h>
#include <stdio.h>
```

```
void main(void)
{
    P1 = 0x80;
    //P1 = 0;
    //P1 = 0xFF;
    //P1 = 0x64;

    while (1){
    }
}
```

Apply different values at P1 and see how the analog output of DAC changes.

**DC Generator Properties** ? X

Generator Name:  Voltage (Volts):

Analogue Types

☒ DC

**DC Generator Properties** ? X

Generator Name:  Voltage (Volts):

Analogue Types

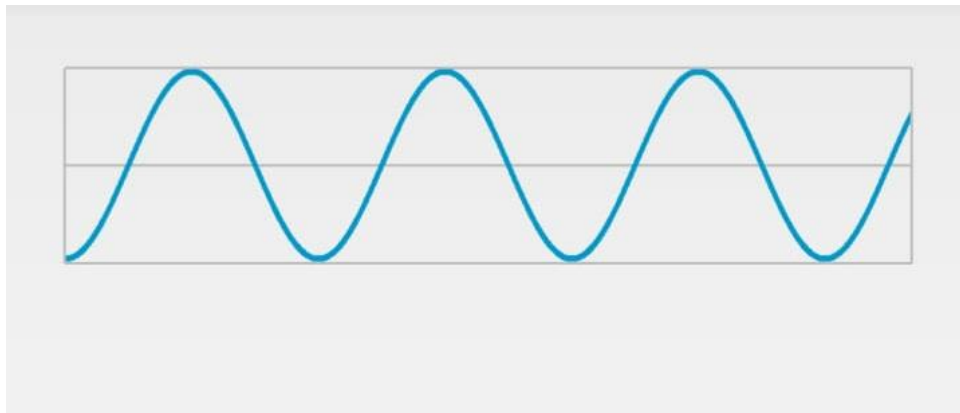
☒ DC

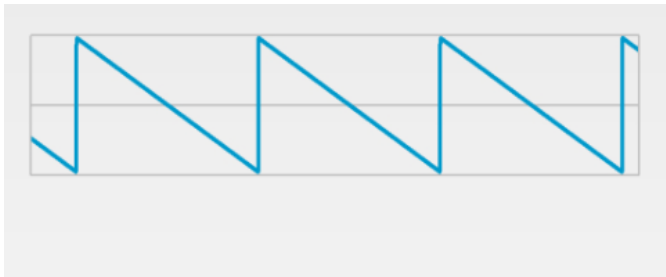
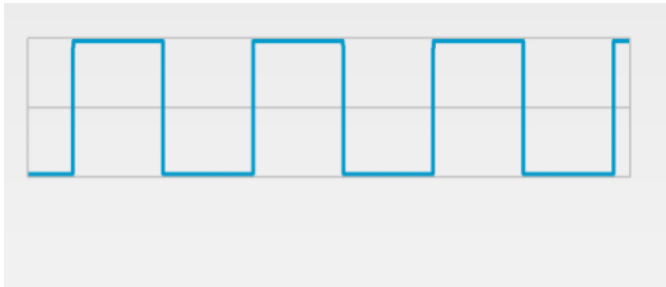
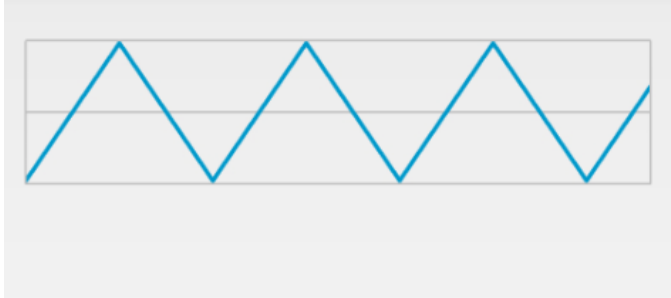
Using the above schematics, design the following four waveforms: all of them have 150Hz frequency. For clean signal output how many samples per cycle should you generate?

E.g if you use 10 samples per cycle of a sine wave. Then total values you need to generate will be  $150 \times 10 = 1500$  samples/sec. Then you need to be in timer ISR after every  $1/1500$  of a second.

What is the maximum sampling rate you can achieve?

What is the maximum frequency of sine wave you can generate?





You can use a button, when pressed once then generate triangular wave, when pressed again generate the square wave and so on.

- Use Port-interrupt for button detection.

**Bonus:** Use another button, that increases the frequency of waves by 10Hz whenever you press it.

Bonus points are equivalent to 1 task.