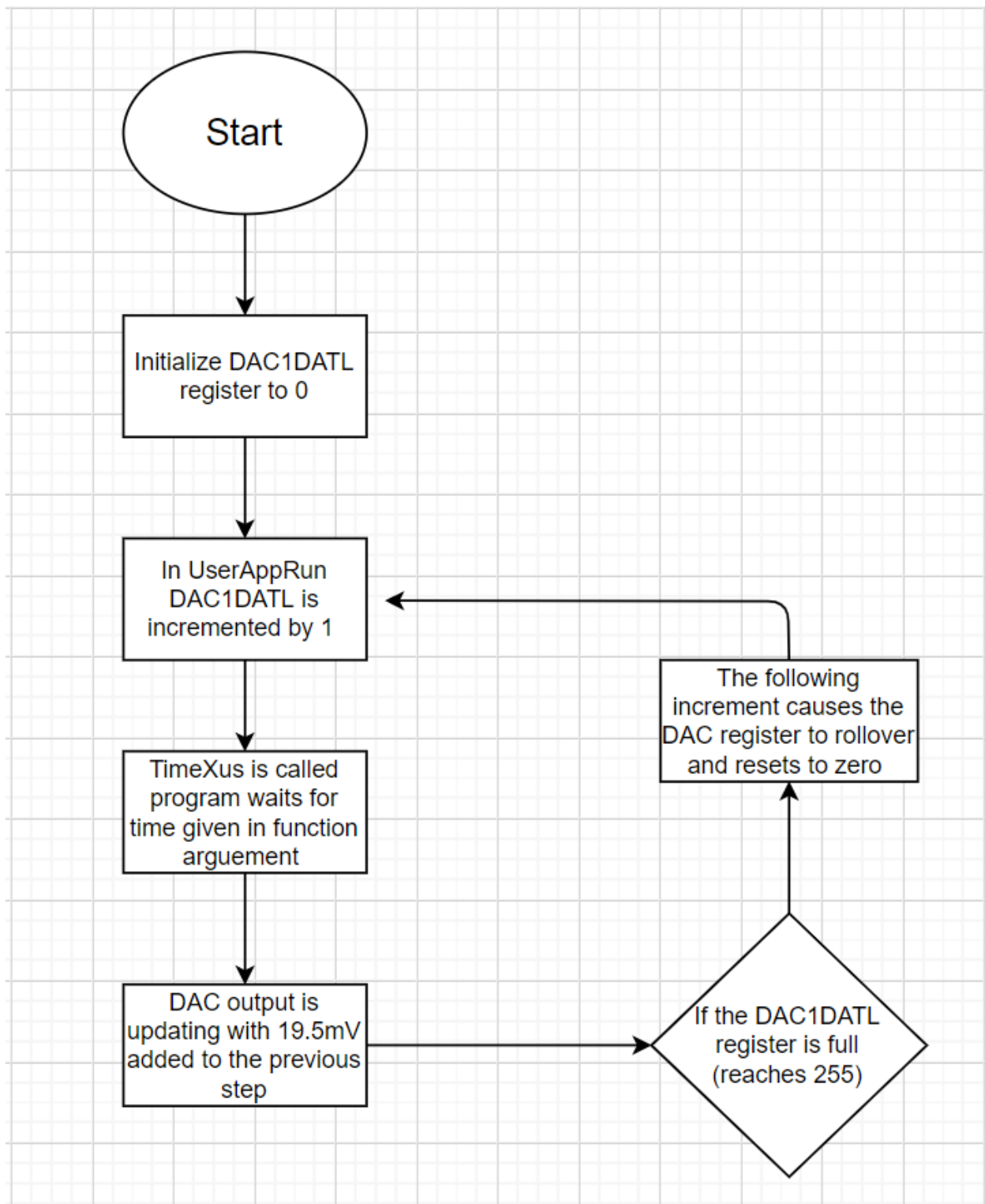**If you wanted a 1kHz Sawtooth wave, draw a simple flowchart for the program you would need to write.**

```
                    ┌─────────────┐
                   (    Start      )
                    └──────┬──────┘
                           │
                           ▼
                 ┌───────────────────┐
                 │ Initialize DAC1DATL│
                 │   register to 0    │
                 └─────────┬─────────┘
                           │
                           ▼
                 ┌───────────────────┐          ┌──────────────────────────┐
                 │  In UserAppRun     │◄─────────│    The following          │
                 │  DAC1DATL is       │          │  increment causes the     │
                 │  incremented by 1  │          │ DAC register to rollover   │
                 └─────────┬─────────┘          │  and resets to zero        │
                           │                    └────────────▲─────────────┘
                           ▼                                  │
                 ┌───────────────────┐                       │
                 │  TimeXus is called │                       │
                 │  program waits for │                       │
                 │ time given in      │                       │
                 │ function arguement │                       │
                 └─────────┬─────────┘                        │
                           │                            ◇─────────────◇
                           ▼                           ◇ If the DAC1DATL ◇
                 ┌───────────────────┐                ◇  register is full ◇
                 │  DAC output is     │───────────────►◇ (reaches 255)    ◇
                 │ updating with 19.5mV│               ◇                  ◇
                 │ added to the previous│               ◇──────────────◇
                 │     step           │
                 └───────────────────┘
```
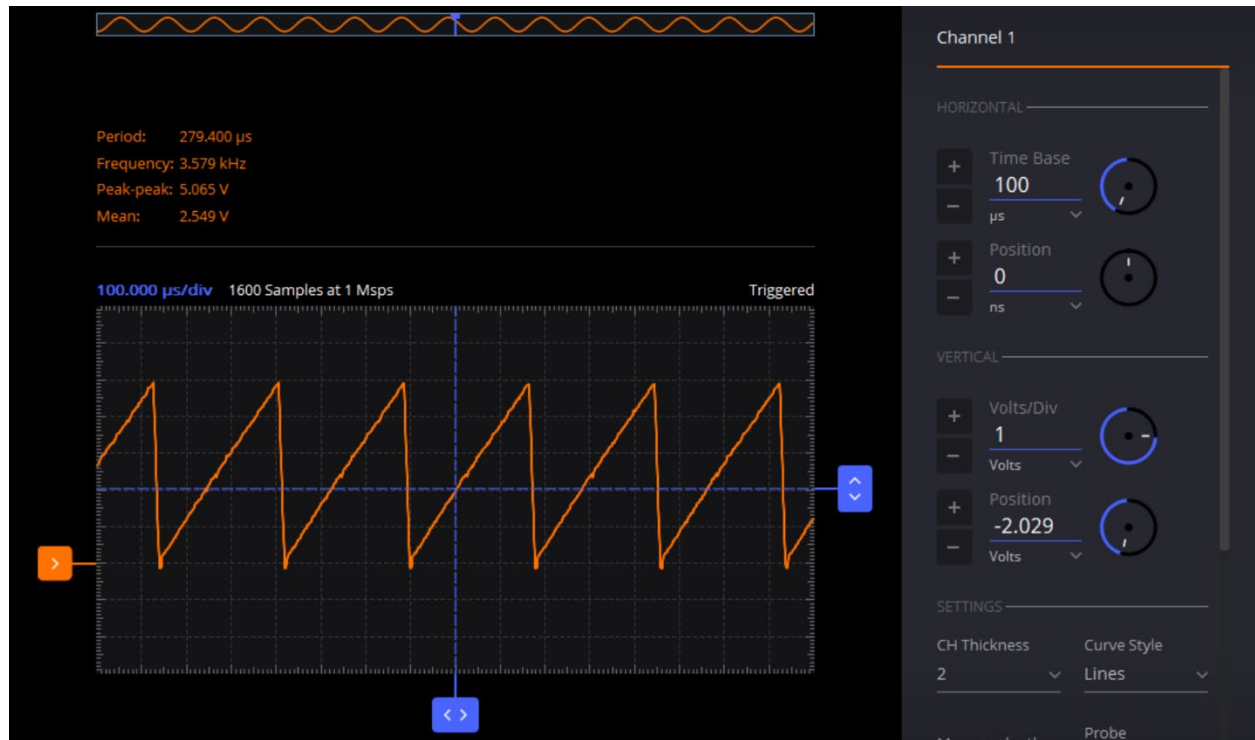
Capture your triangle wave and include the screenshot in your hand-in even though it's not the correct frequency.
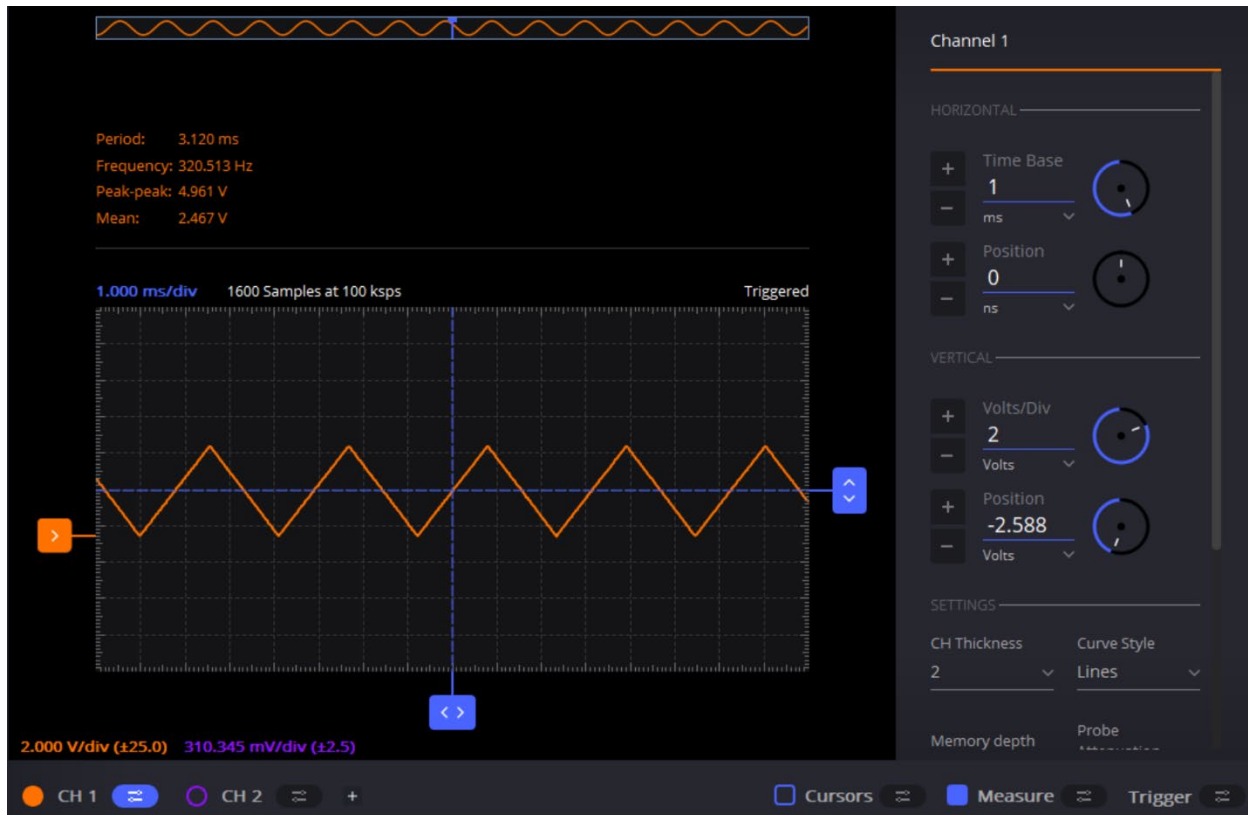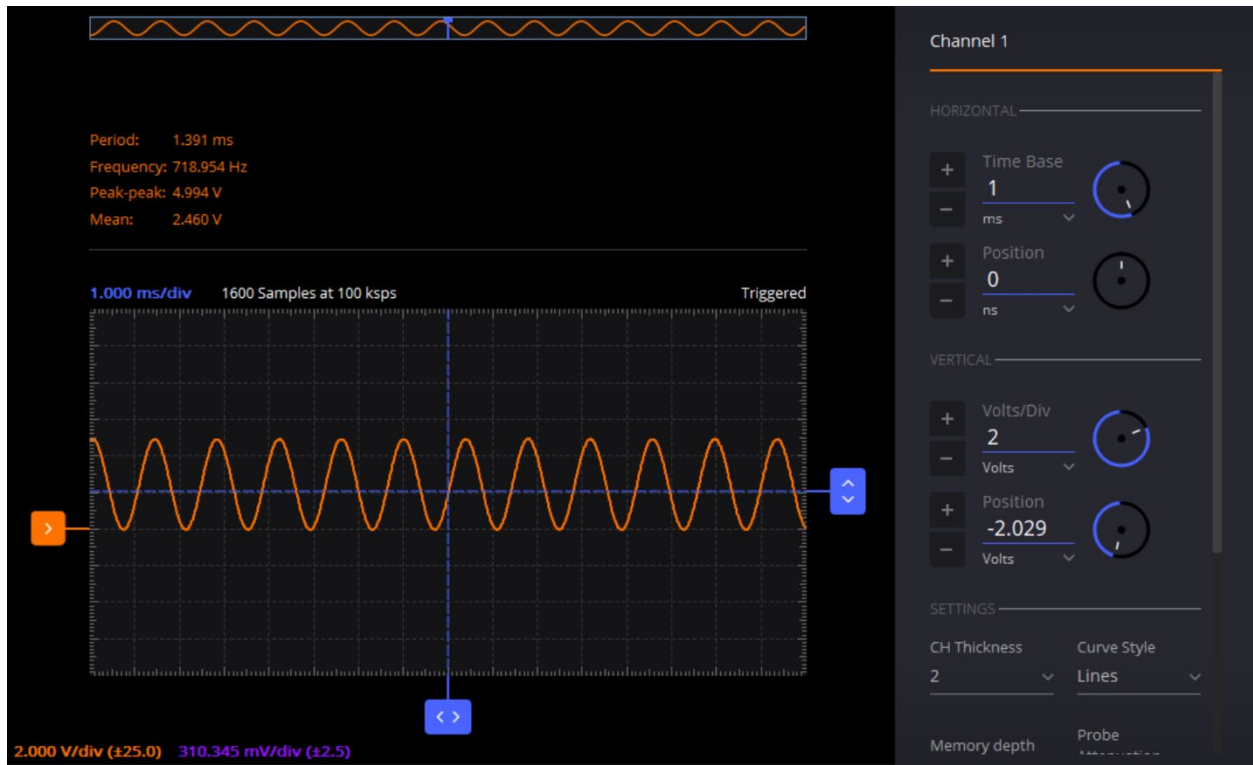

Triangular wave using #if/#endif in main to get minimum possible delay :
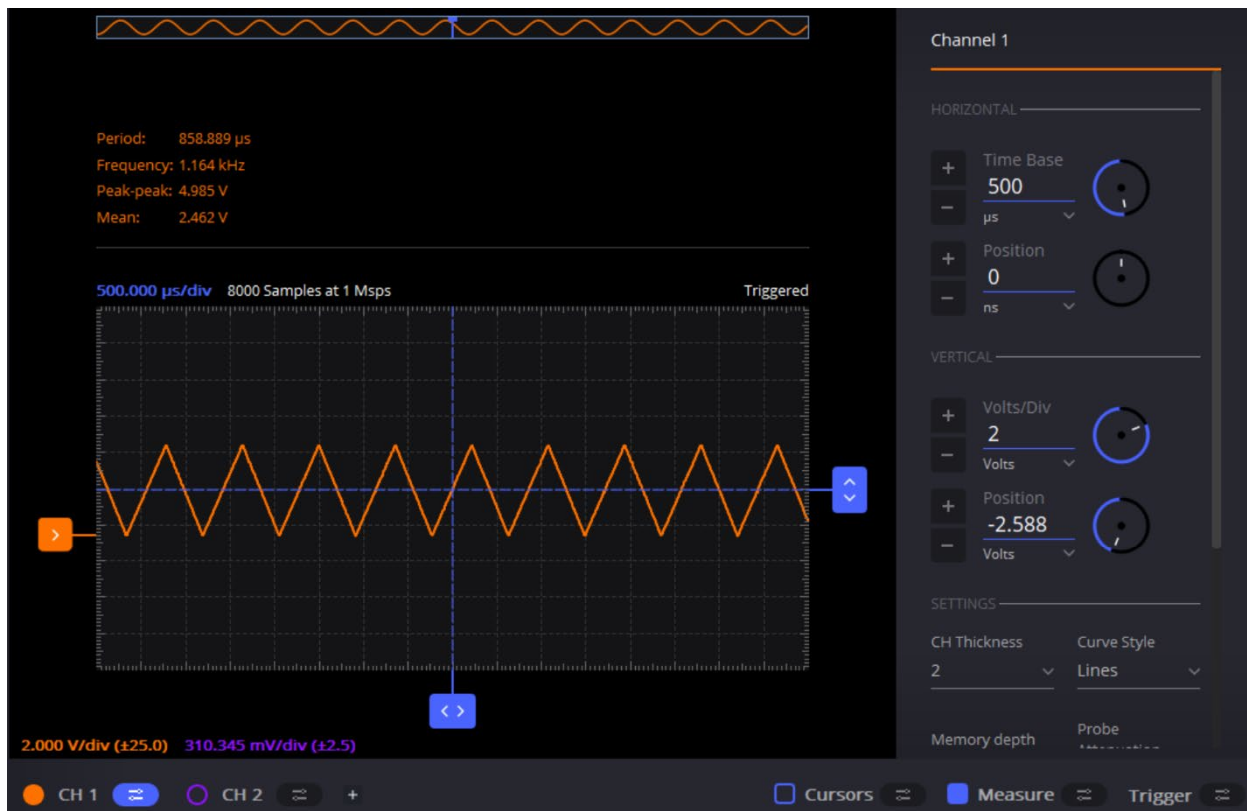
Sawtooth wave using 64 steps instead of 256 steps

Sine wave using 256 steps and 1uS delay from TimeXus()

1KHz Sine wave using 64 steps and 11uS delay from TimeXus():