Timers

Timers are very useful for performing a more complex behavior for a certain period of time. Wait states (such as \texttt{wait(1)}) don’t let the robot execute commands during the waiting period, which is fine for simple behaviors like moving forward. If calculations or other actions need to occur during the timed period, a Timer must be used.

```c
task main()
{
  robotType(recbot);
  // Clear the Timer
  ClearTimer(T1);
  // Timer in the (condition)
  while (time1[T1] < 3000)
  {
    forward(80);
    untilTouch();
    stop();
    pointTurn(right, 100);
    wait(1);
    stop();
  }
}
```

First, you must reset and start a timer by using the \texttt{ClearTimer()} command. Here’s how the command is set up:

\texttt{ClearTimer(Timer\_number);}

The VEX has 4 built in timers: T1, T2, T3, and T4. So if you wanted to reset and start Timer T1, you would type:

\texttt{ClearTimer(T1);}

Then, you can retrieve the value of the timer by using \texttt{time1[T1]}, \texttt{time10[T1]}, or \texttt{time100[T1]} depending on whether you want the output to be in 1, 10, or 100 millisecond values.

In the example above, you should see in the condition that we used \texttt{time1[T1]}. While the value of the timer is less than 3 seconds, the robot will move forward until touch and then turn. The program ends after 3 seconds.