


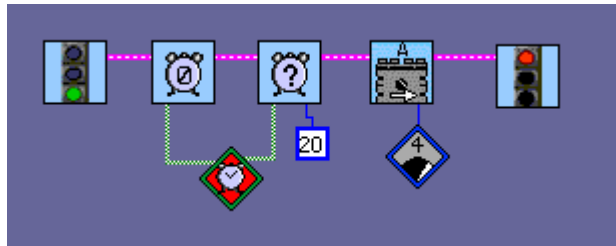
## Timers



Timers are a way to control your programs using time. You can have 3 different timers in a program, red, blue and yellow.

One way to use a timer is to have the program wait until a certain amount of time has passed before proceeding. It is important to reset your timer before you begin. Time is specified in tenths of a second, so 2 seconds would be written as the number 20. 

This program resets the red timer, and then waits until 2 seconds have passed and turns on motor A.

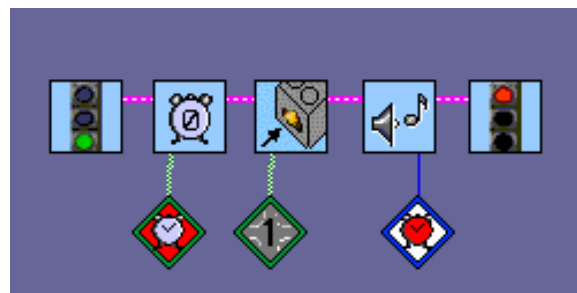


## Timer Values



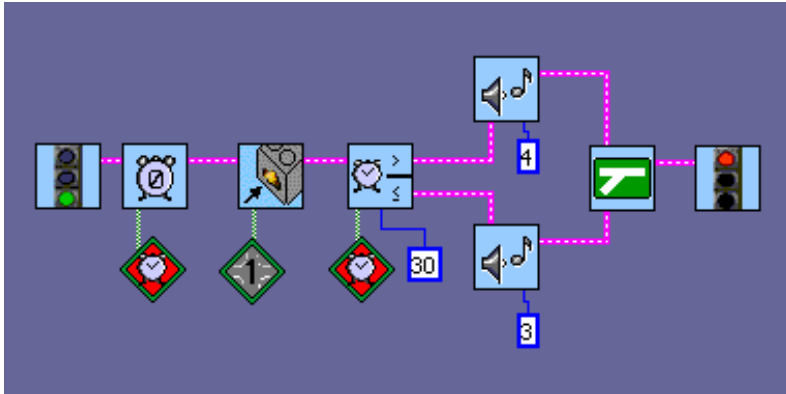
Use the timer value icons to access the contents of a timer.

For example in this program the sound number that is played is equal to the amount of time that has elapsed since the program was started and the touch sensor was pressed.



The value of a timer can be used to control motors, power levels and a variety of other devices.

## Timer Forks



The timer fork can be used to do different things depending on the amount of time that has passed. This program waits until the touch sensor has been pushed in. If the touch

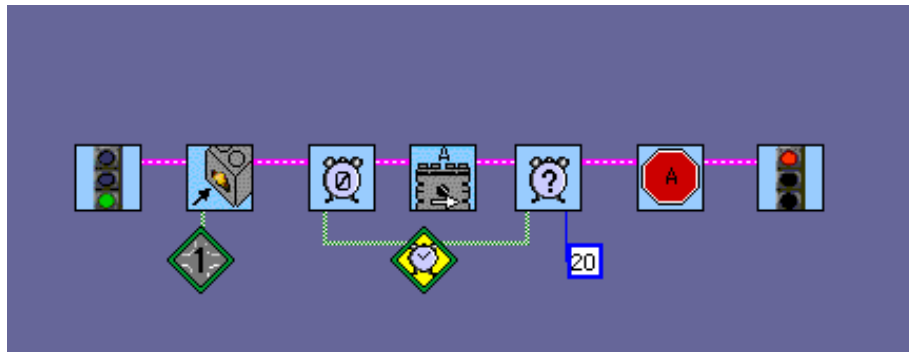
sensor is pressed 3 seconds or less after starting the program (remember 3 seconds is written as 30), then a descending sweep sound is played. If more than 3 seconds has passed, then a rising sweep sound is played. Remember that a fork statement needs a fork merge at the end of the decision.

You can access the value of a timer by using the timer value icons. This is useful for storing the value of the timer in a container. Containers and how to use them will be covered in a later lesson.

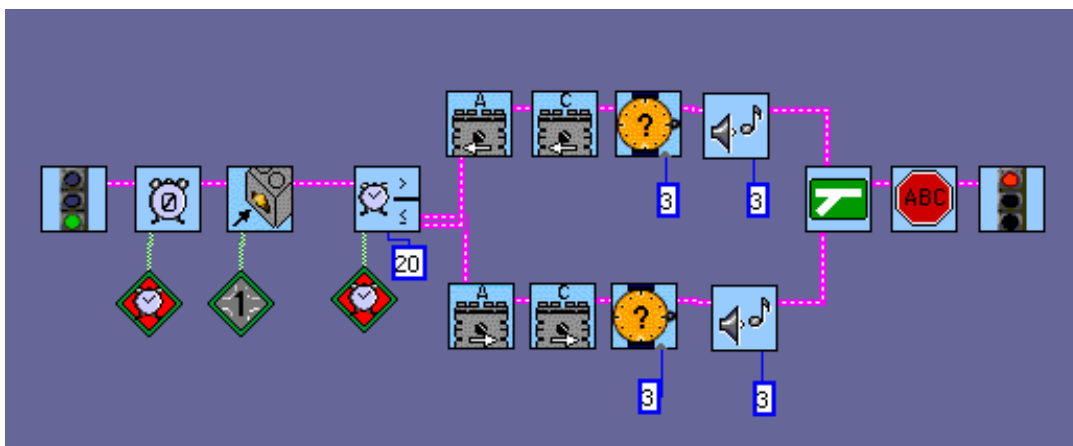


### Timer Worksheet Solutions

- Write a program where the motor is turned on when the touch sensor is pressed and turns off exactly 2 seconds later. You must use a timer.



- Write a program that waits for the touch sensor to be pressed and makes a decision based on the amount of time that has elapsed. If 2 seconds or less have passed motors A and C are turned on for 3 seconds in a forward direction and a descending sweep sound is played. If more than 2 seconds have passed, then motors A and C are turn on for 3 seconds in a reverse direction and a rising sweep sound is played.



Name \_\_\_\_\_ Hour \_\_\_\_\_

### Timer Challenge

Write a program that waits for the touch sensor to be pressed and makes a decision based on the amount of time that has elapsed. If 4 seconds or less have passed your robot spins to the right for 6 seconds. If more than 4 seconds have passed, then your robot spins to the left for 6 seconds.

Name \_\_\_\_\_ Hour \_\_\_\_\_

### Timer Challenge Solutions

Write a program that waits for the touch sensor to be pressed and makes a decision based on the amount of time that has elapsed. If 4 seconds or less have passed your robot spins to the right for 6 seconds. If more than 4 seconds have passed, then your robot spins to the left for 6 seconds.

