```c
/*
    Real-Time Systems
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*/
#include <stdlib.h>
#include <stdio.h>
#include <string.h>
#include "hal.h"
#include "button.h"
#include "led.h"
#include "ticker.h"


#define BUFFERSIZE 132
static long time = 0;
static int remainingTicks = 0;
static long onDownTime = 0;
static long offDownTime = 0;

void initHardware() {
    initButton();
    initLed();
    initTicker();
}

char onDownSimu() {
    if (time == 0 || time > onDownTime) {
        return 0;
    }
    else {
        return 1;
    }
}

char offDownSimu() {
    if (time == 0 || time > offDownTime) {
        return 0;
    }
    else {
        return 1;
    }
}

void tick(void) {
  time = time + 1;
  --remainingTicks;
}

long getTimeSimu() {
    return time;
}

void sampleInputs() {
 long delta = 0;
 char line[BUFFERSIZE];
 char *tailptr;
 char *dum;

 if (remainingTicks > 0) {
     tick();
     return;
 }

 if (gets_s(line,BUFFERSIZE) == NULL) {
     exit(0);
 }

 if (line[0] != '#') {

     /* advance ticker */
     if (line[0] == '+') {
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          tailptr = NULL;
          remainingTicks = (int) strtol(line, &tailptr, 0);
          return;
      }

      /* switch "on" pressed */
      if (strstr(line, "on") == line) {
          remainingTicks = 1;
          /* keep switch pressed for so many ticks */
          if ((tailptr = strstr(line,"+")) != NULL) {
              remainingTicks = (int) strtol(tailptr, &dum, 0);
          }
          onDownTime = time + remainingTicks;
          printf("%d: on down until %d\n", time, onDownTime);
      }

      /* switch "off" pressed */
      if (strstr(line, "off") == line) {
          remainingTicks = 1;
          /* keep switch pressed for so many ticks */
          if ((tailptr = strstr(line,"+")) != NULL) {
              remainingTicks = (int) strtol(tailptr, &dum, 0);
          }
          offDownTime = time + remainingTicks;
          printf("%d: off down until %d\n", time, offDownTime);
      }


  }
};

void turnMachineOff() {
    printf("Turning machine off...\n");
    getc(stdin);
    exit(0);
}
```