Eliza Romeu

Bash

Bash					
sleep time	**0.1**	**0.01**	**0.001**	**0.0001**	**0.00001**
min	-138.7m	-141.8m	-142.3m	-141.9m	-139.5m
max	2.946	2.944	2.943	2.944	2.945
period	277.6m	72.71m	741.4u	49.31m	50.48m
freq	3.80	14.51	20.11	21.19	21.40
processor	34.6%	76.0%	96.5%	99.4%	100.0%

1. What's the min and max voltage? (see table)
2. What period and frequency is it? (see table)
3. How close is it to 100ms?

It is 177.6ms away from 100ms.

4. Why do they differ?

We are using bash which isn’t great from performance speed to ping the LED.

5. Run htop and see how much processor you are using. (see table)
6. What's the shortest period you can get?

The shortest period I was able to get was 49.31ms.

7. How stable is the period?

The period is somewhat stable, every once in a while it will miss a toggle.

8. Try launching something like vi. How stable is the period?

The period is very unstable.

9. Try cleaning up togglegpio.sh and removing unneeded lines. Does it impact the period?

There wasn’t a large impact but there was a slight reduce on the period.

10. togglegpio uses bash (first line in file). Try using sh. Is the period shorter?

Yes the period was shorter.

11. What's the shortest period you can get?

The shortest period I was able to get was 42.51ms.

Eliza Romeu

Python

	Python				
sleep time	**0.1**	**0.01**	**0.001**	**0.0001**	**0.00001**
min	-138.6m	-138.2m	-135.7m	-132.4m	-135.3m
max	2.947	2.924	2.922	2.924	2.92
period	95.11m	10.29m	1.577m	966.9u	769.3u
freq	10.89	93.88	664.70	1.548k	2.094k
processor	23.0%	28.7%	50.0%	73.9%	86.6%

1. What period and frequency is it? (see table)
2. Run htop and see how much processor you are using. (see table)
3. Present the shell script and Python script results in a table for easy comparison. (see table)

C

	C				
sleep time(usleep)	**100000**	**10000**	**1000**	**100**	**10**
min	-138.6m	-139.8m	-140.4m	-139.5m	-138.3m
max	2.946	2.94	2.934	2.944	2.936
period	201.5m	20.67m	2.772m	369.3u	194.4u
freq	4.96	48.68	360.29	2.709k	5.126k
processor	36.6%	78.0%	96.5%	99.9%	100.0%

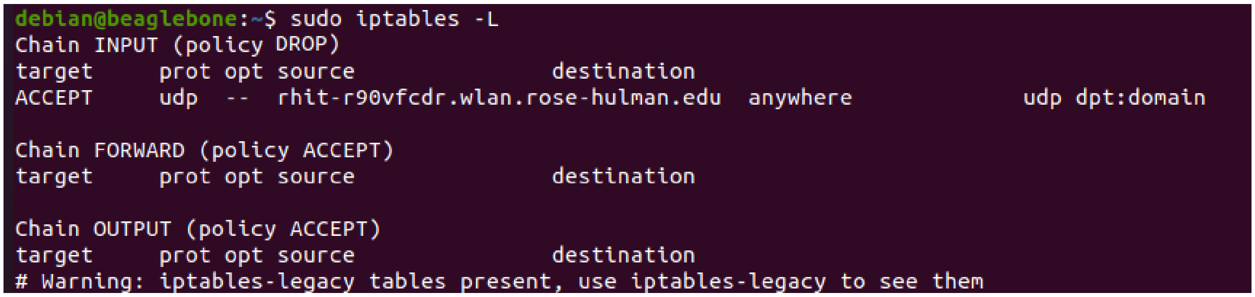
1. Repeat the above using C. Modify togglegpio.c to use lseek() instead of opening and cloing the file. How much faster is it? Add your results to the table.

It was 76.1ms faster.

Eliza Romeu

Security

Setup iptables to only accept ssh connections from on campus. Show output from iptables -L



```
debian@beaglebone:~$ sudo iptables -L
Chain INPUT (policy DROP)
target     prot opt source               destination
ACCEPT     udp  --  rhit-r90vfcdr.wlan.rose-hulman.edu  anywhere             udp dpt:domain

Chain FORWARD (policy ACCEPT)
target     prot opt source               destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source               destination
# Warning: iptables-legacy tables present, use iptables-legacy to see them
```