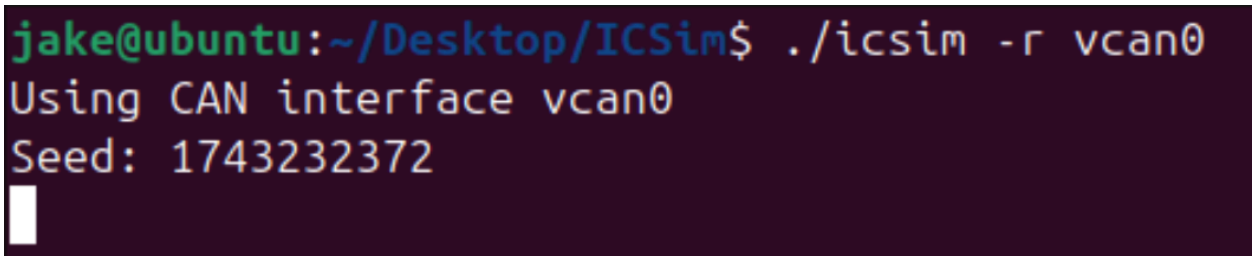
Jake Eckfeldt
PA 2 CPTS 439

1) The name is vcan0 in my simulation canbus. I would need some sort of usb to connect the physical car to my computer, and also some sort of controller or map the inputs to the keyboard. A usb-can adapter with a raspberry pi would work.
2) Seed in step 2



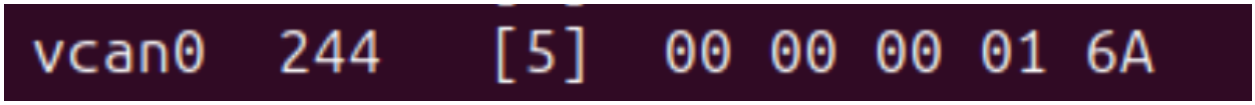
3)

Accelerate	Up arrow
Left	Left (joystick or arrow)
Right	Right(Joystick or arrow)
Unlock LRD	R shift +A
Lock LRD	L Shift + A
Un RRD	R shift + B
Lock RRD	L Shift + B
Un LFD	R shift + x
Lock LFD	L shift + x
Un RFD	R shift + y
Lock RFD	L shift + y

4)
   a) Cansend, candump, cangen, canplayer, cansniffer
   b) Candump captures and shows CAN messages, cansend sends a CAN frame, cangen, makes a CAN message you can make it random or defined, canplayer shows traffic logs, cansniffer shows changing data bytes. Candump is good for the whole logs and seeing timestamps, etc. cansniffer is to see changing fields and maybe see what changes when certain inputs are happening (it filters out a lot of static traffic)
   c) Cansend sends one message that you can specify. Canplayer shows recent CAN traffic where you can see and gather previous messages and maybe send them

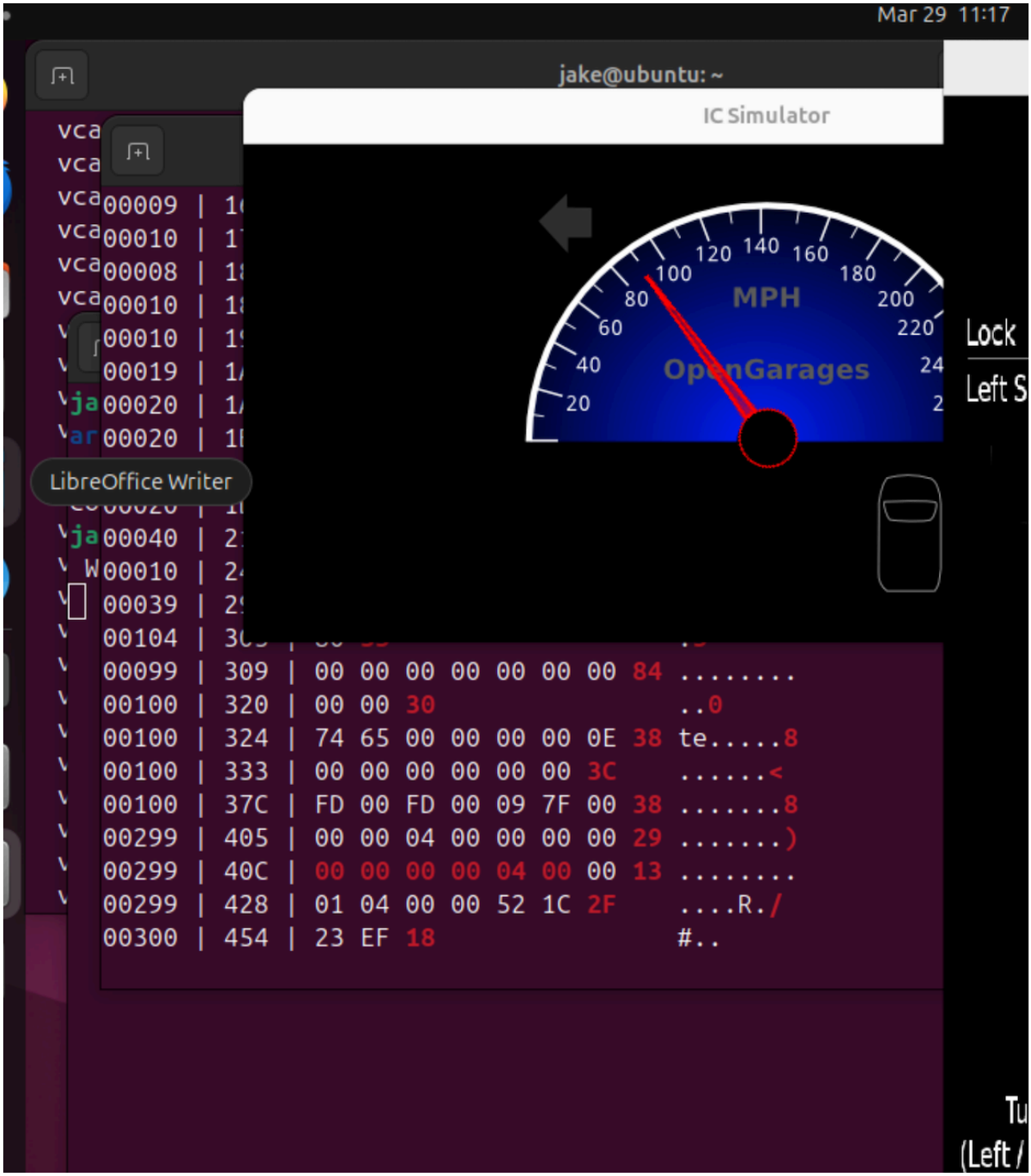
with cansend. Canplayer replays a string of messages and cansend is for sending a one off message.

5) This was the message id of the speedometer. I used chat gpt to find the messages that occurred frequently since I was spamming the accelerate button. I figured there would be a lot of those messages and used cansend to see which one was the accelerate function.



6) For i in {1..100} ; do cansend 244#00A1000000000000 ; done

7)


Mar 29 11:17
jake@ubuntu: ~
IC Simulator
MPH
OpenGarages
LibreOffice Writer
Lock
Left S
00009 | 1
00010 | 1
00008 | 1
00010 | 1
00010 | 1
00019 | 1
00020 | 1
00020 | 1
00040 | 2
00010 | 2
00039 | 2
00104 | 3
00099 | 309 | 00 00 00 00 00 00 00 84 ....
00100 | 320 | 00 00 30 ..0
00100 | 324 | 74 65 00 00 00 00 0E 38 te.....8
00100 | 333 | 00 00 00 00 00 00 3C ......<
00100 | 37C | FD 00 FD 00 09 7F 00 38 8
00299 | 405 | 00 00 04 00 00 00 00 29 ....)
00299 | 40C | 00 00 00 00 04 00 00 13 ....
00299 | 428 | 01 04 00 00 52 1C 2F ....R./
00300 | 454 | 23 EF 18 #..
Tu
(Left /