

Language - C++

Classes - controller

elevator (elevator FSM + Door FSM + IR sensor)

memory (use std::vector?)

floor lights

Global vars - fire mode

current elevator floor

Maybe add graphics?

→ mouse over elevator when open to simulate
"people" walking in/out

→ states outputs in view

→ up down button

→ add 2 elevators?

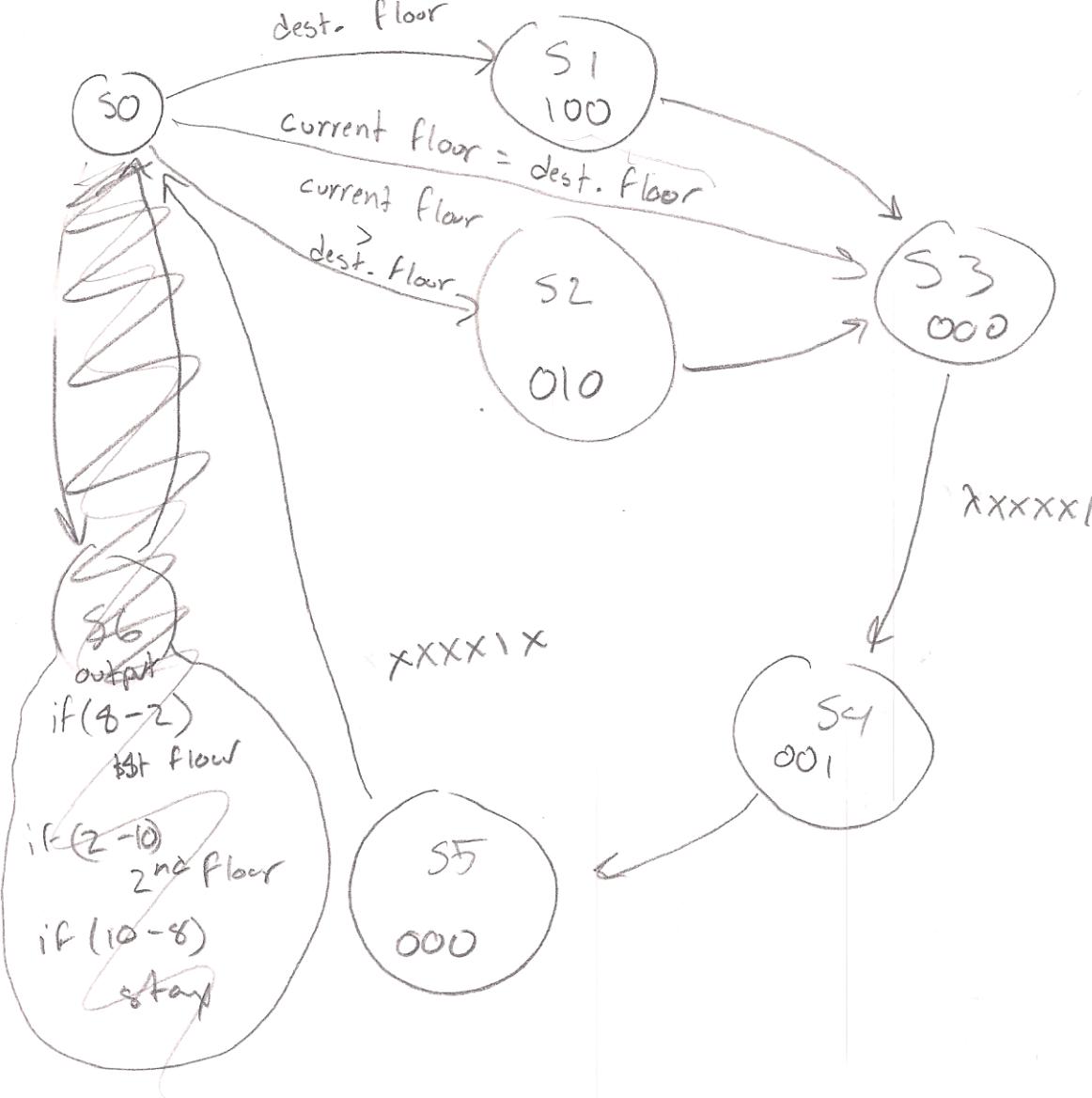
→ SDL libs

Controller

States

- S0 → Ask memory black box
 S1 → Elevator up -
 S2 → Elevator down -
 S3 → wait for latch -
 S4 → reply to door FSM -
 S5 → wait for door closed -
 S6 → ~~Default floor~~

current floor
 dest. floor



Inputs

- floor to go next (2 bits)
- ~~Elevator reached signal (latch)~~
- what floor the elevator (2 bits)
- door closed (1 bit)
- latch (1 bit)

Outputs

- Elevator up/down (2 bits)
- Reply to door FSM (1 bit)

Elevator

States

$S_0 \rightarrow 00 \rightarrow G_f$
 $S_1 \rightarrow 01 \rightarrow 1f$
 $S_2 \rightarrow 10 \rightarrow 2f$
 $S_3 \rightarrow 11 \rightarrow 3f$

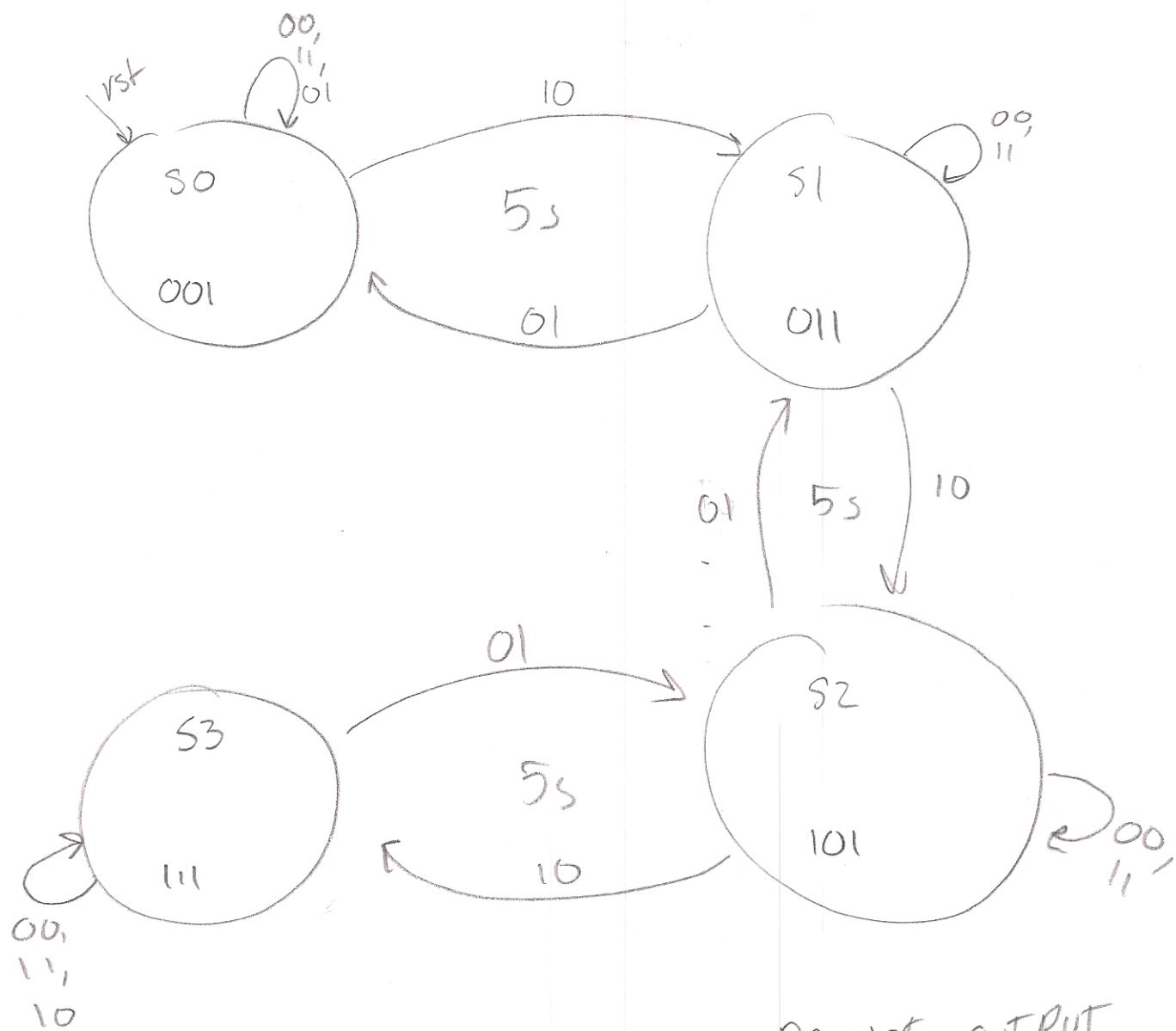
Input

V	D	
0	0	\rightarrow wait
0	1	\rightarrow Go down
1	0	\rightarrow Go up
1	1	\rightarrow don't care

Output

Current floor (2 bits)

Start door FSM (1 bit)



DO NOT OUTPUT
 TO FLOOR FSM
 GO THROUGH CONTROLLER

Door FSM

States

S0 → door closed

S1 → latching (1s) / output sound

S2 → open door

S3 → wait for IR sensor

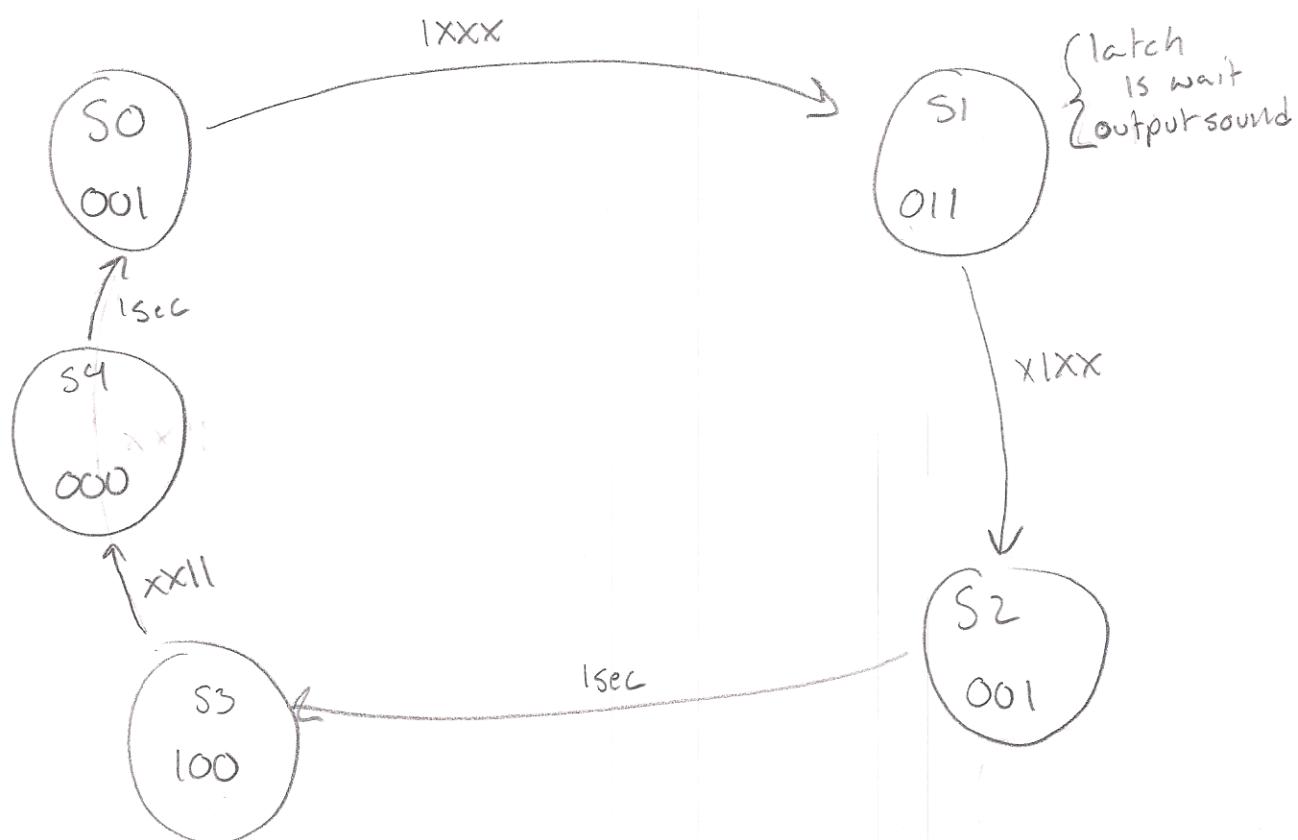
S4 → close door

Inputs
 Start door FSM (1bit)
 controller open door (1bit)
 IR sensor end (1bit)
 Door close (IR sensor) (1bit)

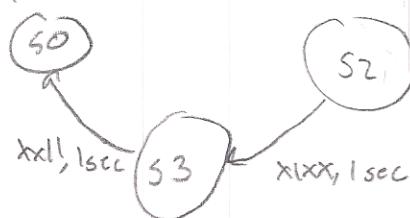
Combine?

SOIC

outputs
 IR sensor start (1bit)
 sound (1bit)
 door closed (1bit)



combine S2, S3, S4 to



IR Sensor

states

S0 → 1st (IR sensor off)

S1 → Person walking through

S2 → No person walking through

S3 → Close door

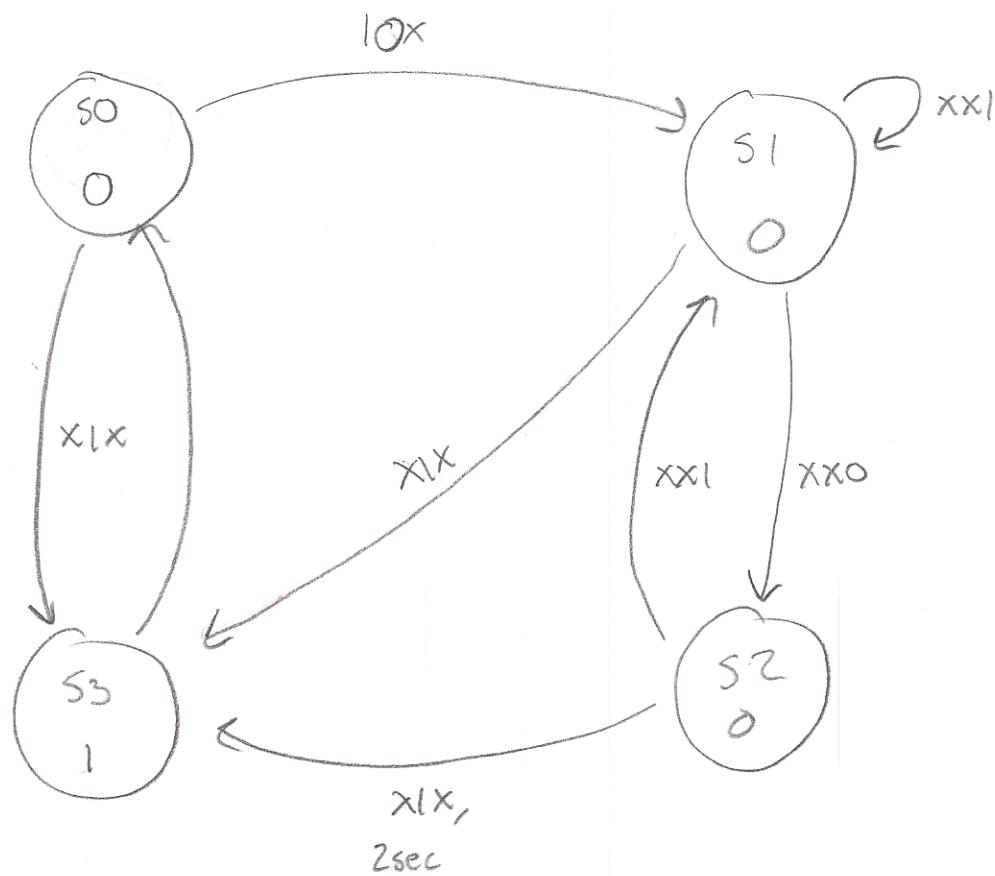
Inputs

start IR
fire state
IRON

SFI

output

Door close



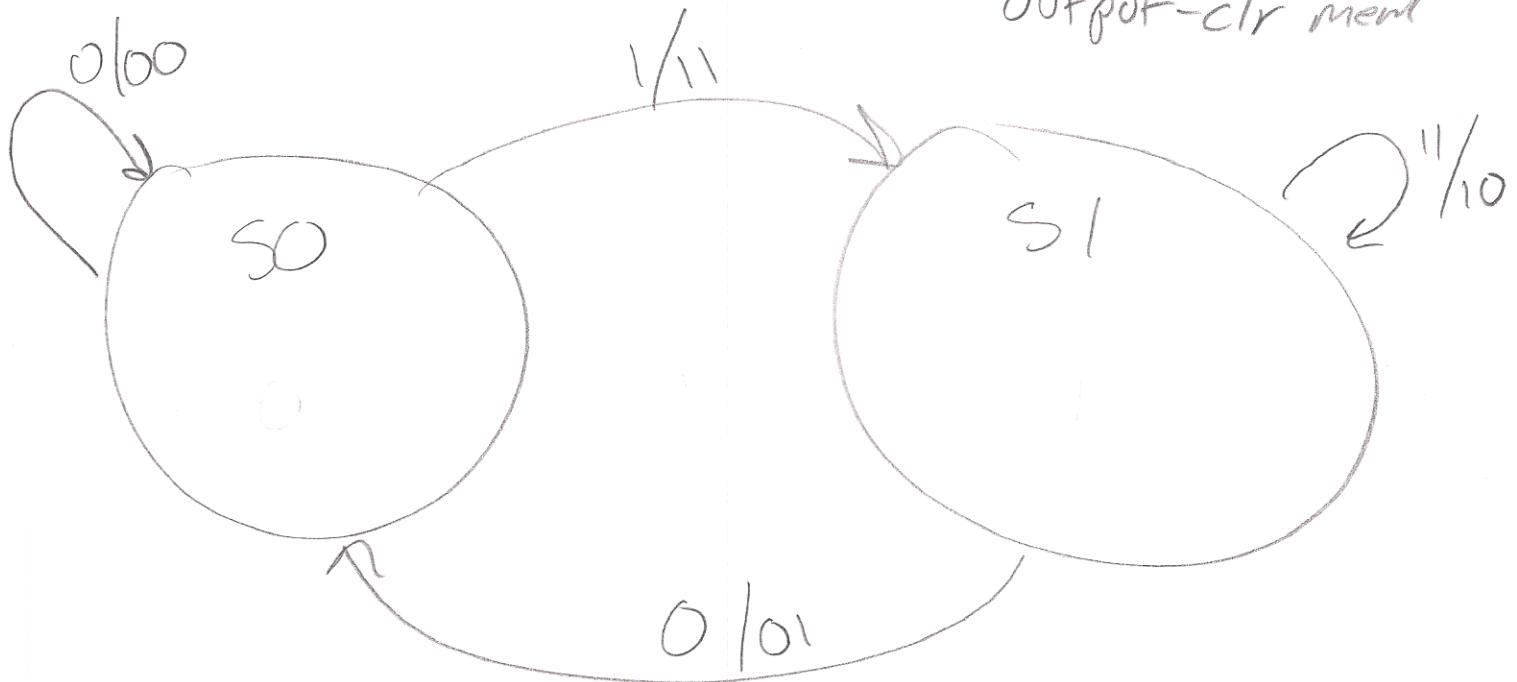
FIRE

Input Fire key inserted

Output -

In Panic mode

Output-clr mem



If key was disconnected (Input 0) ^{after being 1} reset memory and go to default

S0 → Not in fire mode

S1 → In fire mode

Controller (FIRE)

S0 → paused state (rst state)

S1 → go up ↗

S2 → Go down

S3 → wait for latch

S4 → wait for door open button

S5 → wait for door closed button

same inputs as controller

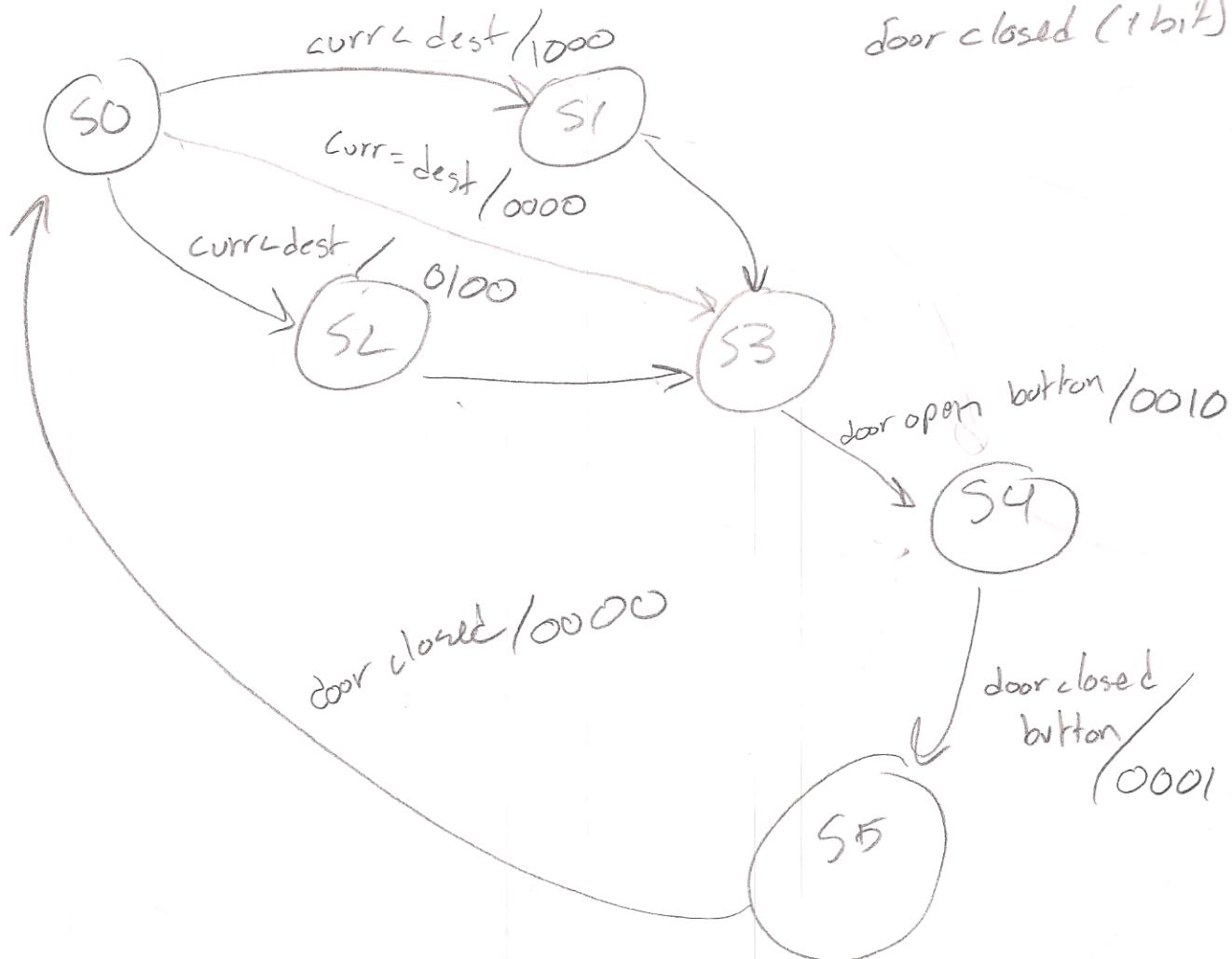
↗ door open

outputs

elevator up/down (2 bits)

door open (1 bit)

door closed (1 bit)



Door FSM (FIRE)

$s_0 \rightarrow$ door closed

$s_1 \rightarrow$ latch / sound

$s_2 \rightarrow$ door ~~open~~
open door

$s_3 \rightarrow$ door ~~closed~~
close door

Input

start (1bit)

opendoor (1bit)

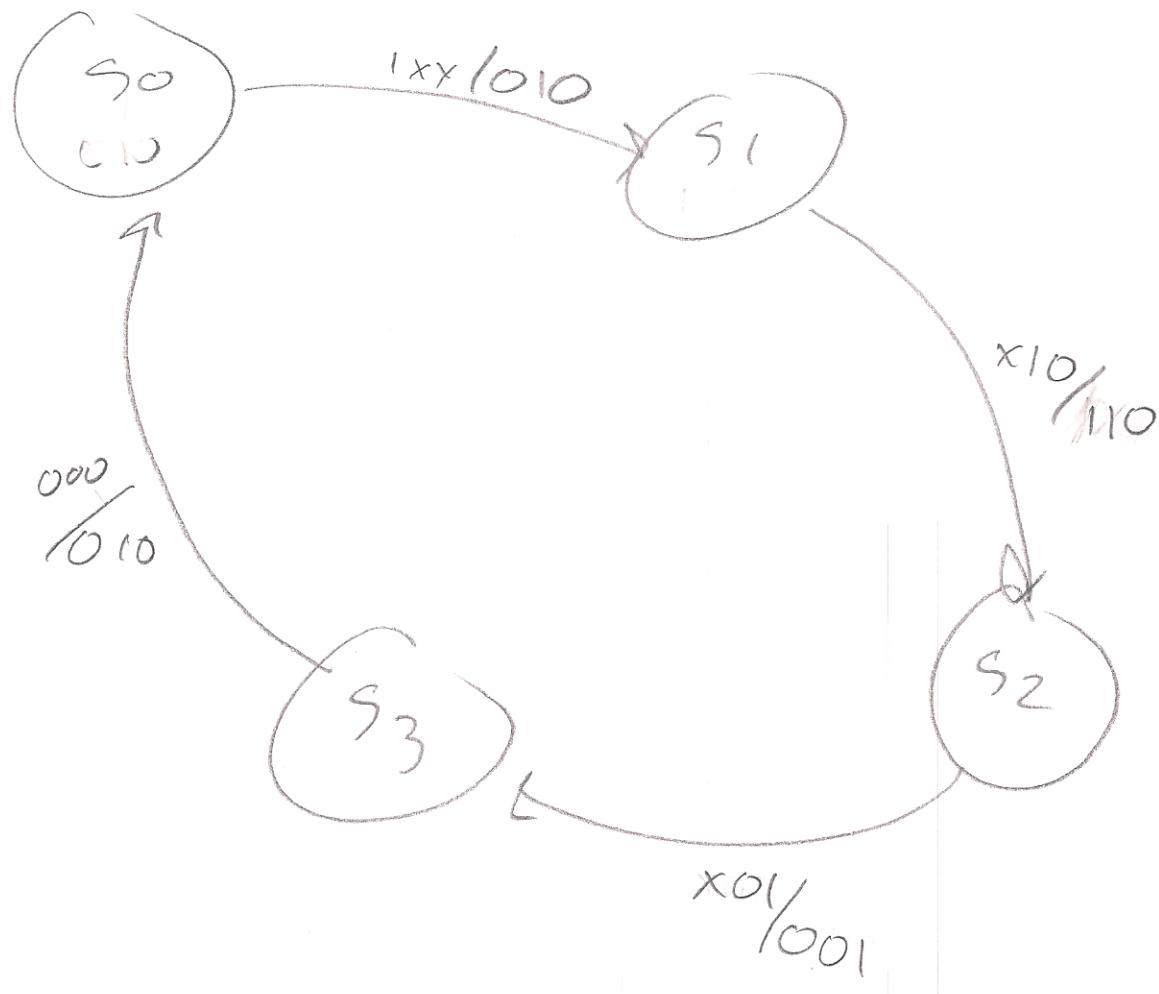
closedoor (1bit)

Outputs

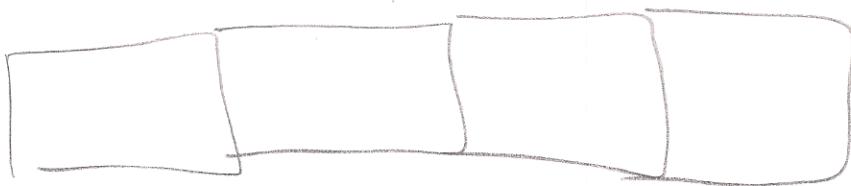
sound

doorclosed

dooropen



MEMORY - NO FSM (black box)



clear mem - 1bit

Input \rightarrow Current Floor - 2 bits
Direction - 1 bit

output \rightarrow Next floor to stop at

Input \rightarrow buttons from each floor

IT'S A QUEUE

FIRST IN - FIRST OUT (FIFO)

\rightarrow if no next floor then

if ($8_{\text{pm}} = 2_{\text{pm}}$)

1st floor

if ($2_{\text{pm}} = 10_{\text{pm}}$)

2nd floor

if ($10_{\text{pm}} = 8_{\text{pm}}$)

stay at current floor

FLOOR LIGHTS - NO FSM (black box)

fsm seems to difficult

up
X X X X
G 1 2 3

down
X X X X
D 1 2 3

Floor 6

up on \rightarrow x20 bitor 10000000

~~down on \rightarrow x20 bitor~~ can't go down

up off \rightarrow x20 bitand 01111111

Floor 1

up on \rightarrow x20 bitor 01000000

down on \rightarrow x20 bitor 00000100

up off \rightarrow x20 bitand 10111111

down off \rightarrow x20 bitand 11111011

- - -

12 operations

Inputs

up/down (from controller)

current floor (from elevator)

pass function object

that takes

parameter of
x20 and returns
the bitset operat

???

```
1 hour 9
2 min 0
3 erst 1
4 mem 0
5 start 1
6 wait 15
7 mem 2
8
```

```
1 At time = 0
2 Elevator Floor: 0
3 Elevator State: Down
4 IR Sensor State: Sensor Off
5 Door State: Closed
6 Elevator Stop: 1
7 Door Open Sig: 0
8 Door Close Sig: 0
9 Fire State: 0
10 X20 register: 4
11 Sound: 0
12
13 At time = 1
14 Elevator Floor: 0
15 Elevator State: Down
16 IR Sensor State: Sensor Off
17 Door State: Closed
18 Elevator Stop: 1
19 Door Open Sig: 0
20 Door Close Sig: 0
21 Fire State: 0
22 X20 register: 4
23 Sound: 0
24
25 At time = 2
26 Elevator Floor: 0
27 Elevator State: Down
28 IR Sensor State: Sensor Off
29 Door State: Closed
30 Elevator Stop: 1
31 Door Open Sig: 0
32 Door Close Sig: 0
33 Fire State: 0
34 X20 register: 4
35 Sound: 0
36
37 At time = 3
38 Elevator Floor: 0
39 Elevator State: Down
40 IR Sensor State: Sensor Off
41 Door State: Closed
42 Elevator Stop: 1
43 Door Open Sig: 0
44 Door Close Sig: 0
45 Fire State: 0
46 X20 register: 4
47 Sound: 0
48
49 At time = 4
50 Elevator Floor: 0
51 Elevator State: Down
52 IR Sensor State: Sensor Off
53 Door State: Closed
54 Elevator Stop: 1
55 Door Open Sig: 0
56 Door Close Sig: 0
57 Fire State: 0
58 X20 register: 4
59 Sound: 0
60
61 At time = 5
62 Elevator Floor: 0
63 Elevator State: Waiting
64 IR Sensor State: Sensor Off
65 Door State: Latch and Sound
66 Elevator Stop: 0
67 Door Open Sig: 1
68 Door Close Sig: 1
69 Fire State: 0
```

```
70 X20 register: 8
71 Sound: 0
72
73 At time = 6
74 Elevator Floor: 0
75 Elevator State: Waiting
76 IR Sensor State: Sensor Off
77 Door State: Latch and Sound
78 Elevator Stop: 0
79 Door Open Sig: 1
80 Door Close Sig: 1
81 Fire State: 0
82 X20 register: 8
83 Sound: 0
84
85 At time = 7
86 Elevator Floor: 0
87 Elevator State: Waiting
88 IR Sensor State: Sensor Off
89 Door State: Open
90 Elevator Stop: 0
91 Door Open Sig: 1
92 Door Close Sig: 1
93 Fire State: 0
94 X20 register: 8
95 Sound: 1
96
97 At time = 8
98 Elevator Floor: 0
99 Elevator State: Waiting
100 IR Sensor State: Person Walking
101 Door State: Waiting for IR
102 Elevator Stop: 0
103 Door Open Sig: 1
104 Door Close Sig: 1
105 Fire State: 0
106 X20 register: 8
107 Sound: 0
108
109 At time = 9
110 Elevator Floor: 0
111 Elevator State: Waiting
112 IR Sensor State: Person Walking
113 Door State: Waiting for IR
114 Elevator Stop: 0
115 Door Open Sig: 1
116 Door Close Sig: 1
117 Fire State: 0
118 X20 register: 8
119 Sound: 0
120
121 At time = 10
122 Elevator Floor: 0
123 Elevator State: Waiting
124 IR Sensor State: Sensor Off
125 Door State: Door Closing
126 Elevator Stop: 0
127 Door Open Sig: 1
128 Door Close Sig: 1
129 Fire State: 0
130 X20 register: 8
131 Sound: 0
132
133 At time = 11
134 Elevator Floor: 0
135 Elevator State: Waiting
136 IR Sensor State: Sensor Off
137 Door State: Closed
138 Elevator Stop: 0
```

```
139 Door Open Sig: 0
140 Door Close Sig: 0
141 Fire State: 0
142 X20 register: 8
143 Sound: 0
144
145 At time = 12
146 Elevator Floor: 0
147 Elevator State: Waiting
148 IR Sensor State: Sensor Off
149 Door State: Closed
150 Elevator Stop: 0
151 Door Open Sig: 0
152 Door Close Sig: 0
153 Fire State: 0
154 X20 register: 8
155 Sound: 0
156
157 At time = 13
158 Elevator Floor: 0
159 Elevator State: Waiting
160 IR Sensor State: Sensor Off
161 Door State: Closed
162 Elevator Stop: 0
163 Door Open Sig: 0
164 Door Close Sig: 0
165 Fire State: 0
166 X20 register: 8
167 Sound: 0
168
169 At time = 14
170 Elevator Floor: 0
171 Elevator State: Waiting
172 IR Sensor State: Sensor Off
173 Door State: Closed
174 Elevator Stop: 0
175 Door Open Sig: 0
176 Door Close Sig: 0
177 Fire State: 0
178 X20 register: 8
179 Sound: 0
180
181 At time = 15
182 Elevator Floor: 1
183 Elevator State: Up
184 IR Sensor State: Sensor Off
185 Door State: Closed
186 Elevator Stop: 0
187 Door Open Sig: 0
188 Door Close Sig: 0
189 Fire State: 0
190 X20 register: 128
191 Sound: 0
192
193 At time = 16
194 Elevator Floor: 1
195 Elevator State: Up
196 IR Sensor State: Sensor Off
197 Door State: Closed
198 Elevator Stop: 0
199 Door Open Sig: 0
200 Door Close Sig: 0
201 Fire State: 0
202 X20 register: 128
203 Sound: 0
204
205 At time = 17
206 Elevator Floor: 1
207 Elevator State: Up
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208 IR Sensor State: Sensor Off
209 Door State: Closed
210 Elevator Stop: 0
211 Door Open Sig: 0
212 Door Close Sig: 0
213 Fire State: 0
214 X20 register: 128
215 Sound: 0
216
217 At time = 18
218 Elevator Floor: 1
219 Elevator State: Up
220 IR Sensor State: Sensor Off
221 Door State: Closed
222 Elevator Stop: 0
223 Door Open Sig: 0
224 Door Close Sig: 0
225 Fire State: 0
226 X20 register: 128
227 Sound: 0
228
229 At time = 19
230 Elevator Floor: 1
231 Elevator State: Up
232 IR Sensor State: Sensor Off
233 Door State: Closed
234 Elevator Stop: 0
235 Door Open Sig: 0
236 Door Close Sig: 0
237 Fire State: 0
238 X20 register: 128
239 Sound: 0
240
241 At time = 20
242 Elevator Floor: 2
243 Elevator State: Up
244 IR Sensor State: Sensor Off
245 Door State: Closed
246 Elevator Stop: 1
247 Door Open Sig: 0
248 Door Close Sig: 0
249 Fire State: 0
250 X20 register: 64
251 Sound: 0
252
253 At time = 21
254 Elevator Floor: 2
255 Elevator State: Up
256 IR Sensor State: Sensor Off
257 Door State: Closed
258 Elevator Stop: 1
259 Door Open Sig: 0
260 Door Close Sig: 0
261 Fire State: 0
262 X20 register: 64
263 Sound: 0
264
265 At time = 22
266 Elevator Floor: 2
267 Elevator State: Up
268 IR Sensor State: Sensor Off
269 Door State: Closed
270 Elevator Stop: 1
271 Door Open Sig: 0
272 Door Close Sig: 0
273 Fire State: 0
274 X20 register: 64
275 Sound: 0
276
```

277 At time = 23
278 Elevator Floor: 2
279 Elevator State: Up
280 IR Sensor State: Sensor Off
281 Door State: Closed
282 Elevator Stop: 1
283 Door Open Sig: 0
284 Door Close Sig: 0
285 Fire State: 0
286 X20 register: 64
287 Sound: 0
288
289 At time = 24
290 Elevator Floor: 2
291 Elevator State: Up
292 IR Sensor State: Sensor Off
293 Door State: Closed
294 Elevator Stop: 1
295 Door Open Sig: 0
296 Door Close Sig: 0
297 Fire State: 0
298 X20 register: 64
299 Sound: 0
300
301 At time = 25
302 Elevator Floor: 2
303 Elevator State: Waiting
304 IR Sensor State: Sensor Off
305 Door State: Latch and Sound
306 Elevator Stop: 0
307 Door Open Sig: 1
308 Door Close Sig: 1
309 Fire State: 0
310 X20 register: 32
311 Sound: 0
312
313 At time = 26
314 Elevator Floor: 2
315 Elevator State: Waiting
316 IR Sensor State: Sensor Off
317 Door State: Latch and Sound
318 Elevator Stop: 0
319 Door Open Sig: 1
320 Door Close Sig: 1
321 Fire State: 0
322 X20 register: 32
323 Sound: 0
324
325 At time = 27
326 Elevator Floor: 2
327 Elevator State: Waiting
328 IR Sensor State: Sensor Off
329 Door State: Open
330 Elevator Stop: 0
331 Door Open Sig: 1
332 Door Close Sig: 1
333 Fire State: 0
334 X20 register: 32
335 Sound: 1
336
337 At time = 28
338 Elevator Floor: 2
339 Elevator State: Waiting
340 IR Sensor State: Person Walking
341 Door State: Waiting for IR
342 Elevator Stop: 0
343 Door Open Sig: 1
344 Door Close Sig: 1
345 Fire State: 0

```
346 X20 register: 32
347 Sound: 0
348
349 At time = 29
350 Elevator Floor: 2
351 Elevator State: Waiting
352 IR Sensor State: Person Walking
353 Door State: Waiting for IR
354 Elevator Stop: 0
355 Door Open Sig: 1
356 Door Close Sig: 1
357 Fire State: 0
358 X20 register: 32
359 Sound: 0
360
361 At time = 30
362 Elevator Floor: 2
363 Elevator State: Waiting
364 IR Sensor State: Sensor Off
365 Door State: Door Closing
366 Elevator Stop: 0
367 Door Open Sig: 1
368 Door Close Sig: 1
369 Fire State: 0
370 X20 register: 32
371 Sound: 0
372
373 At time = 31
374 Elevator Floor: 2
375 Elevator State: Waiting
376 IR Sensor State: Sensor Off
377 Door State: Closed
378 Elevator Stop: 0
379 Door Open Sig: 0
380 Door Close Sig: 0
381 Fire State: 0
382 X20 register: 32
383 Sound: 0
384
385 At time = 32
386 Elevator Floor: 2
387 Elevator State: Waiting
388 IR Sensor State: Sensor Off
389 Door State: Closed
390 Elevator Stop: 0
391 Door Open Sig: 0
392 Door Close Sig: 0
393 Fire State: 0
394 X20 register: 32
395 Sound: 0
396
397 At time = 33
398 Elevator Floor: 2
399 Elevator State: Waiting
400 IR Sensor State: Sensor Off
401 Door State: Closed
402 Elevator Stop: 0
403 Door Open Sig: 0
404 Door Close Sig: 0
405 Fire State: 0
406 X20 register: 32
407 Sound: 0
408
409 At time = 34
410 Elevator Floor: 2
411 Elevator State: Waiting
412 IR Sensor State: Sensor Off
413 Door State: Closed
414 Elevator Stop: 0
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415 Door Open Sig: 0
416 Door Close Sig: 0
417 Fire State: 0
418 X20 register: 32
419 Sound: 0
420
421 At time = 35
422 Elevator Floor: 2
423 Elevator State: Waiting
424 IR Sensor State: Sensor Off
425 Door State: Closed
426 Elevator Stop: 0
427 Door Open Sig: 0
428 Door Close Sig: 0
429 Fire State: 0
430 X20 register: 32
431 Sound: 0
432
433 At time = 36
434 Elevator Floor: 2
435 Elevator State: Waiting
436 IR Sensor State: Sensor Off
437 Door State: Closed
438 Elevator Stop: 0
439 Door Open Sig: 0
440 Door Close Sig: 0
441 Fire State: 0
442 X20 register: 32
443 Sound: 0
444
445 At time = 37
446 Elevator Floor: 2
447 Elevator State: Waiting
448 IR Sensor State: Sensor Off
449 Door State: Closed
450 Elevator Stop: 0
451 Door Open Sig: 0
452 Door Close Sig: 0
453 Fire State: 0
454 X20 register: 32
455 Sound: 0
456
457 At time = 38
458 Elevator Floor: 2
459 Elevator State: Waiting
460 IR Sensor State: Sensor Off
461 Door State: Closed
462 Elevator Stop: 0
463 Door Open Sig: 0
464 Door Close Sig: 0
465 Fire State: 0
466 X20 register: 32
467 Sound: 0
468
469 At time = 39
470 Elevator Floor: 2
471 Elevator State: Waiting
472 IR Sensor State: Sensor Off
473 Door State: Closed
474 Elevator Stop: 0
475 Door Open Sig: 0
476 Door Close Sig: 0
477 Fire State: 0
478 X20 register: 32
479 Sound: 0
480
481 At time = 40
482 Elevator Floor: 2
483 Elevator State: Waiting
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484 IR Sensor State: Sensor Off
485 Door State: Closed
486 Elevator Stop: 0
487 Door Open Sig: 0
488 Door Close Sig: 0
489 Fire State: 0
490 X20 register: 32
491 Sound: 0
492
493 At time = 41
494 Elevator Floor: 2
495 Elevator State: Waiting
496 IR Sensor State: Sensor Off
497 Door State: Closed
498 Elevator Stop: 0
499 Door Open Sig: 0
500 Door Close Sig: 0
501 Fire State: 0
502 X20 register: 32
503 Sound: 0
504
505 At time = 42
506 Elevator Floor: 2
507 Elevator State: Waiting
508 IR Sensor State: Sensor Off
509 Door State: Closed
510 Elevator Stop: 0
511 Door Open Sig: 0
512 Door Close Sig: 0
513 Fire State: 0
514 X20 register: 32
515 Sound: 0
516
517 At time = 43
518 Elevator Floor: 2
519 Elevator State: Waiting
520 IR Sensor State: Sensor Off
521 Door State: Closed
522 Elevator Stop: 0
523 Door Open Sig: 0
524 Door Close Sig: 0
525 Fire State: 0
526 X20 register: 32
527 Sound: 0
528
529 At time = 44
530 Elevator Floor: 2
531 Elevator State: Waiting
532 IR Sensor State: Sensor Off
533 Door State: Closed
534 Elevator Stop: 0
535 Door Open Sig: 0
536 Door Close Sig: 0
537 Fire State: 0
538 X20 register: 32
539 Sound: 0
540
541 At time = 45
542 Elevator Floor: 2
543 Elevator State: Waiting
544 IR Sensor State: Sensor Off
545 Door State: Closed
546 Elevator Stop: 0
547 Door Open Sig: 0
548 Door Close Sig: 0
549 Fire State: 0
550 X20 register: 32
551 Sound: 0
552

553 At time = 46
554 Elevator Floor: 2
555 Elevator State: Waiting
556 IR Sensor State: Sensor Off
557 Door State: Closed
558 Elevator Stop: 0
559 Door Open Sig: 0
560 Door Close Sig: 0
561 Fire State: 0
562 X20 register: 32
563 Sound: 0
564
565 At time = 47
566 Elevator Floor: 2
567 Elevator State: Waiting
568 IR Sensor State: Sensor Off
569 Door State: Closed
570 Elevator Stop: 0
571 Door Open Sig: 0
572 Door Close Sig: 0
573 Fire State: 0
574 X20 register: 32
575 Sound: 0
576
577 At time = 48
578 Elevator Floor: 2
579 Elevator State: Waiting
580 IR Sensor State: Sensor Off
581 Door State: Closed
582 Elevator Stop: 0
583 Door Open Sig: 0
584 Door Close Sig: 0
585 Fire State: 0
586 X20 register: 32
587 Sound: 0
588
589 At time = 49
590 Elevator Floor: 2
591 Elevator State: Waiting
592 IR Sensor State: Sensor Off
593 Door State: Closed
594 Elevator Stop: 0
595 Door Open Sig: 0
596 Door Close Sig: 0
597 Fire State: 0
598 X20 register: 32
599 Sound: 0
600
601 At time = 50
602 Elevator Floor: 2
603 Elevator State: Waiting
604 IR Sensor State: Sensor Off
605 Door State: Closed
606 Elevator Stop: 0
607 Door Open Sig: 0
608 Door Close Sig: 0
609 Fire State: 0
610 X20 register: 32
611 Sound: 0
612
613 At time = 51
614 Elevator Floor: 2
615 Elevator State: Waiting
616 IR Sensor State: Sensor Off
617 Door State: Closed
618 Elevator Stop: 0
619 Door Open Sig: 0
620 Door Close Sig: 0
621 Fire State: 0

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622 X20 register: 32
623 Sound: 0
624
625 At time = 52
626 Elevator Floor: 2
627 Elevator State: Waiting
628 IR Sensor State: Sensor Off
629 Door State: Closed
630 Elevator Stop: 0
631 Door Open Sig: 0
632 Door Close Sig: 0
633 Fire State: 0
634 X20 register: 32
635 Sound: 0
636
637 At time = 53
638 Elevator Floor: 2
639 Elevator State: Waiting
640 IR Sensor State: Sensor Off
641 Door State: Closed
642 Elevator Stop: 0
643 Door Open Sig: 0
644 Door Close Sig: 0
645 Fire State: 0
646 X20 register: 32
647 Sound: 0
648
649 At time = 54
650 Elevator Floor: 2
651 Elevator State: Waiting
652 IR Sensor State: Sensor Off
653 Door State: Closed
654 Elevator Stop: 0
655 Door Open Sig: 0
656 Door Close Sig: 0
657 Fire State: 0
658 X20 register: 32
659 Sound: 0
660
661 At time = 55
662 Elevator Floor: 2
663 Elevator State: Waiting
664 IR Sensor State: Sensor Off
665 Door State: Closed
666 Elevator Stop: 0
667 Door Open Sig: 0
668 Door Close Sig: 0
669 Fire State: 0
670 X20 register: 32
671 Sound: 0
672
673 At time = 56
674 Elevator Floor: 2
675 Elevator State: Waiting
676 IR Sensor State: Sensor Off
677 Door State: Closed
678 Elevator Stop: 0
679 Door Open Sig: 0
680 Door Close Sig: 0
681 Fire State: 0
682 X20 register: 32
683 Sound: 0
684
685 At time = 57
686 Elevator Floor: 2
687 Elevator State: Waiting
688 IR Sensor State: Sensor Off
689 Door State: Closed
690 Elevator Stop: 0
```

691 Door Open Sig: 0
692 Door Close Sig: 0
693 Fire State: 0
694 X20 register: 32
695 Sound: 0
696
697 At time = 58
698 Elevator Floor: 2
699 Elevator State: Waiting
700 IR Sensor State: Sensor Off
701 Door State: Closed
702 Elevator Stop: 0
703 Door Open Sig: 0
704 Door Close Sig: 0
705 Fire State: 0
706 X20 register: 32
707 Sound: 0
708
709 At time = 59
710 Elevator Floor: 2
711 Elevator State: Waiting
712 IR Sensor State: Sensor Off
713 Door State: Closed
714 Elevator Stop: 0
715 Door Open Sig: 0
716 Door Close Sig: 0
717 Fire State: 0
718 X20 register: 32
719 Sound: 0
720
721 At time = 60
722 Elevator Floor: 2
723 Elevator State: Waiting
724 IR Sensor State: Sensor Off
725 Door State: Closed
726 Elevator Stop: 0
727 Door Open Sig: 0
728 Door Close Sig: 0
729 Fire State: 0
730 X20 register: 32
731 Sound: 0
732
733 At time = 61
734 Elevator Floor: 1
735 Elevator State: Down
736 IR Sensor State: Sensor Off
737 Door State: Closed
738 Elevator Stop: 1
739 Door Open Sig: 0
740 Door Close Sig: 0
741 Fire State: 0
742 X20 register: 2
743 Sound: 0
744
745 At time = 62
746 Elevator Floor: 1
747 Elevator State: Down
748 IR Sensor State: Sensor Off
749 Door State: Closed
750 Elevator Stop: 1
751 Door Open Sig: 0
752 Door Close Sig: 0
753 Fire State: 0
754 X20 register: 2
755 Sound: 0
756
757 At time = 63
758 Elevator Floor: 1
759 Elevator State: Down

760 IR Sensor State: Sensor Off
761 Door State: Closed
762 Elevator Stop: 1
763 Door Open Sig: 0
764 Door Close Sig: 0
765 Fire State: 0
766 X20 register: 2
767 Sound: 0
768
769 At time = 64
770 Elevator Floor: 1
771 Elevator State: Down
772 IR Sensor State: Sensor Off
773 Door State: Closed
774 Elevator Stop: 1
775 Door Open Sig: 0
776 Door Close Sig: 0
777 Fire State: 0
778 X20 register: 2
779 Sound: 0
780
781 At time = 65
782 Elevator Floor: 1
783 Elevator State: Down
784 IR Sensor State: Sensor Off
785 Door State: Closed
786 Elevator Stop: 1
787 Door Open Sig: 0
788 Door Close Sig: 0
789 Fire State: 0
790 X20 register: 2
791 Sound: 0
792
793 At time = 66
794 Elevator Floor: 1
795 Elevator State: Waiting
796 IR Sensor State: Sensor Off
797 Door State: Latch and Sound
798 Elevator Stop: 0
799 Door Open Sig: 1
800 Door Close Sig: 1
801 Fire State: 0
802 X20 register: 4
803 Sound: 0
804
805 At time = 67
806 Elevator Floor: 1
807 Elevator State: Waiting
808 IR Sensor State: Sensor Off
809 Door State: Latch and Sound
810 Elevator Stop: 0
811 Door Open Sig: 1
812 Door Close Sig: 1
813 Fire State: 0
814 X20 register: 4
815 Sound: 0
816
817 At time = 68
818 Elevator Floor: 1
819 Elevator State: Waiting
820 IR Sensor State: Sensor Off
821 Door State: Open
822 Elevator Stop: 0
823 Door Open Sig: 1
824 Door Close Sig: 1
825 Fire State: 0
826 X20 register: 4
827 Sound: 1
828

829 At time = 69
830 Elevator Floor: 1
831 Elevator State: Waiting
832 IR Sensor State: Person Walking
833 Door State: Waiting for IR
834 Elevator Stop: 0
835 Door Open Sig: 1
836 Door Close Sig: 1
837 Fire State: 0
838 X20 register: 4
839 Sound: 0
840
841 At time = 70
842 Elevator Floor: 1
843 Elevator State: Waiting
844 IR Sensor State: Person Walking
845 Door State: Waiting for IR
846 Elevator Stop: 0
847 Door Open Sig: 1
848 Door Close Sig: 1
849 Fire State: 0
850 X20 register: 4
851 Sound: 0
852
853 At time = 71
854 Elevator Floor: 1
855 Elevator State: Waiting
856 IR Sensor State: Sensor Off
857 Door State: Door Closing
858 Elevator Stop: 0
859 Door Open Sig: 1
860 Door Close Sig: 1
861 Fire State: 0
862 X20 register: 4
863 Sound: 0
864
865 At time = 72
866 Elevator Floor: 1
867 Elevator State: Waiting
868 IR Sensor State: Sensor Off
869 Door State: Closed
870 Elevator Stop: 0
871 Door Open Sig: 0
872 Door Close Sig: 0
873 Fire State: 0
874 X20 register: 4
875 Sound: 0
876
877 At time = 73
878 Elevator Floor: 1
879 Elevator State: Waiting
880 IR Sensor State: Sensor Off
881 Door State: Closed
882 Elevator Stop: 0
883 Door Open Sig: 0
884 Door Close Sig: 0
885 Fire State: 0
886 X20 register: 4
887 Sound: 0
888
889 At time = 74
890 Elevator Floor: 1
891 Elevator State: Waiting
892 IR Sensor State: Sensor Off
893 Door State: Closed
894 Elevator Stop: 0
895 Door Open Sig: 0
896 Door Close Sig: 0
897 Fire State: 0

898 X20 register: 4
899 Sound: 0
900
901 At time = 75
902 Elevator Floor: 1
903 Elevator State: Waiting
904 IR Sensor State: Sensor Off
905 Door State: Closed
906 Elevator Stop: 0
907 Door Open Sig: 0
908 Door Close Sig: 0
909 Fire State: 0
910 X20 register: 4
911 Sound: 0
912
913 At time = 76
914 Elevator Floor: 1
915 Elevator State: Waiting
916 IR Sensor State: Sensor Off
917 Door State: Closed
918 Elevator Stop: 0
919 Door Open Sig: 0
920 Door Close Sig: 0
921 Fire State: 0
922 X20 register: 4
923 Sound: 0
924
925 At time = 77
926 Elevator Floor: 1
927 Elevator State: Waiting
928 IR Sensor State: Sensor Off
929 Door State: Closed
930 Elevator Stop: 0
931 Door Open Sig: 0
932 Door Close Sig: 0
933 Fire State: 0
934 X20 register: 4
935 Sound: 0
936
937 At time = 78
938 Elevator Floor: 1
939 Elevator State: Waiting
940 IR Sensor State: Sensor Off
941 Door State: Closed
942 Elevator Stop: 0
943 Door Open Sig: 0
944 Door Close Sig: 0
945 Fire State: 0
946 X20 register: 4
947 Sound: 0
948
949 At time = 79
950 Elevator Floor: 1
951 Elevator State: Waiting
952 IR Sensor State: Sensor Off
953 Door State: Closed
954 Elevator Stop: 0
955 Door Open Sig: 0
956 Door Close Sig: 0
957 Fire State: 0
958 X20 register: 4
959 Sound: 0
960
961 At time = 80
962 Elevator Floor: 1
963 Elevator State: Waiting
964 IR Sensor State: Sensor Off
965 Door State: Closed
966 Elevator Stop: 0

967 Door Open Sig: 0
968 Door Close Sig: 0
969 Fire State: 0
970 X20 register: 4
971 Sound: 0
972
973 At time = 81
974 Elevator Floor: 1
975 Elevator State: Waiting
976 IR Sensor State: Sensor Off
977 Door State: Closed
978 Elevator Stop: 0
979 Door Open Sig: 0
980 Door Close Sig: 0
981 Fire State: 0
982 X20 register: 4
983 Sound: 0
984
985 At time = 82
986 Elevator Floor: 1
987 Elevator State: Waiting
988 IR Sensor State: Sensor Off
989 Door State: Closed
990 Elevator Stop: 0
991 Door Open Sig: 0
992 Door Close Sig: 0
993 Fire State: 0
994 X20 register: 4
995 Sound: 0
996
997 At time = 83
998 Elevator Floor: 1
999 Elevator State: Waiting
1000 IR Sensor State: Sensor Off
1001 Door State: Closed
1002 Elevator Stop: 0
1003 Door Open Sig: 0
1004 Door Close Sig: 0
1005 Fire State: 0
1006 X20 register: 4
1007 Sound: 0
1008
1009 At time = 84
1010 Elevator Floor: 1
1011 Elevator State: Waiting
1012 IR Sensor State: Sensor Off
1013 Door State: Closed
1014 Elevator Stop: 0
1015 Door Open Sig: 0
1016 Door Close Sig: 0
1017 Fire State: 0
1018 X20 register: 4
1019 Sound: 0
1020
1021 At time = 85
1022 Elevator Floor: 1
1023 Elevator State: Waiting
1024 IR Sensor State: Sensor Off
1025 Door State: Closed
1026 Elevator Stop: 0
1027 Door Open Sig: 0
1028 Door Close Sig: 0
1029 Fire State: 0
1030 X20 register: 4
1031 Sound: 0
1032
1033 At time = 86
1034 Elevator Floor: 1
1035 Elevator State: Waiting

1036 IR Sensor State: Sensor Off
1037 Door State: Closed
1038 Elevator Stop: 0
1039 Door Open Sig: 0
1040 Door Close Sig: 0
1041 Fire State: 0
1042 X20 register: 4
1043 Sound: 0
1044
1045 At time = 87
1046 Elevator Floor: 1
1047 Elevator State: Waiting
1048 IR Sensor State: Sensor Off
1049 Door State: Closed
1050 Elevator Stop: 0
1051 Door Open Sig: 0
1052 Door Close Sig: 0
1053 Fire State: 0
1054 X20 register: 4
1055 Sound: 0
1056
1057 At time = 88
1058 Elevator Floor: 1
1059 Elevator State: Waiting
1060 IR Sensor State: Sensor Off
1061 Door State: Closed
1062 Elevator Stop: 0
1063 Door Open Sig: 0
1064 Door Close Sig: 0
1065 Fire State: 0
1066 X20 register: 4
1067 Sound: 0
1068
1069 At time = 89
1070 Elevator Floor: 1
1071 Elevator State: Waiting
1072 IR Sensor State: Sensor Off
1073 Door State: Closed
1074 Elevator Stop: 0
1075 Door Open Sig: 0
1076 Door Close Sig: 0
1077 Fire State: 0
1078 X20 register: 4
1079 Sound: 0
1080
1081 At time = 90
1082 Elevator Floor: 1
1083 Elevator State: Waiting
1084 IR Sensor State: Sensor Off
1085 Door State: Closed
1086 Elevator Stop: 0
1087 Door Open Sig: 0
1088 Door Close Sig: 0
1089 Fire State: 0
1090 X20 register: 4
1091 Sound: 0
1092
1093 At time = 91
1094 Elevator Floor: 1
1095 Elevator State: Waiting
1096 IR Sensor State: Sensor Off
1097 Door State: Closed
1098 Elevator Stop: 0
1099 Door Open Sig: 0
1100 Door Close Sig: 0
1101 Fire State: 0
1102 X20 register: 4
1103 Sound: 0
1104

1105 At time = 92
1106 Elevator Floor: 1
1107 Elevator State: Waiting
1108 IR Sensor State: Sensor Off
1109 Door State: Closed
1110 Elevator Stop: 0
1111 Door Open Sig: 0
1112 Door Close Sig: 0
1113 Fire State: 0
1114 X20 register: 4
1115 Sound: 0
1116
1117

```
1 hour 14
2 min 59
3 erst 1
4 mem 3
5 start 1
6 waitff 3
7 iron 1
8 waitfd 3
9 wait 7
10 iron 0
11 waitfd 4
12 mem 1
13 wait 2
14 mem 2
15 wait 1
16 mem 0
```

```
1 At time = 0
2 Elevator Floor: 2
3 Elevator State: Up
4 IR Sensor State: Sensor Off
5 Door State: Closed
6 Elevator Stop: 0
7 Door Open Sig: 0
8 Door Close Sig: 0
9 Fire State: 0
10 X20 register: 64
11 Sound: 0
12
13 At time = 1
14 Elevator Floor: 2
15 Elevator State: Up
16 IR Sensor State: Sensor Off
17 Door State: Closed
18 Elevator Stop: 0
19 Door Open Sig: 0
20 Door Close Sig: 0
21 Fire State: 0
22 X20 register: 64
23 Sound: 0
24
25 At time = 2
26 Elevator Floor: 2
27 Elevator State: Up
28 IR Sensor State: Sensor Off
29 Door State: Closed
30 Elevator Stop: 0
31 Door Open Sig: 0
32 Door Close Sig: 0
33 Fire State: 0
34 X20 register: 64
35 Sound: 0
36
37 At time = 3
38 Elevator Floor: 2
39 Elevator State: Up
40 IR Sensor State: Sensor Off
41 Door State: Closed
42 Elevator Stop: 0
43 Door Open Sig: 0
44 Door Close Sig: 0
45 Fire State: 0
46 X20 register: 64
47 Sound: 0
48
49 At time = 4
50 Elevator Floor: 2
51 Elevator State: Up
52 IR Sensor State: Sensor Off
53 Door State: Closed
54 Elevator Stop: 0
55 Door Open Sig: 0
56 Door Close Sig: 0
57 Fire State: 0
58 X20 register: 64
59 Sound: 0
60
61 At time = 5
62 Elevator Floor: 3
63 Elevator State: Up
64 IR Sensor State: Sensor Off
65 Door State: Closed
66 Elevator Stop: 1
67 Door Open Sig: 0
68 Door Close Sig: 0
69 Fire State: 0
```

```
70 X20 register: 16
71 Sound: 0
72
73 At time = 6
74 Elevator Floor: 3
75 Elevator State: Up
76 IR Sensor State: Sensor Off
77 Door State: Closed
78 Elevator Stop: 1
79 Door Open Sig: 0
80 Door Close Sig: 0
81 Fire State: 0
82 X20 register: 16
83 Sound: 0
84
85 At time = 7
86 Elevator Floor: 3
87 Elevator State: Up
88 IR Sensor State: Sensor Off
89 Door State: Closed
90 Elevator Stop: 1
91 Door Open Sig: 0
92 Door Close Sig: 0
93 Fire State: 0
94 X20 register: 16
95 Sound: 0
96
97 At time = 8
98 Elevator Floor: 3
99 Elevator State: Up
100 IR Sensor State: Sensor Off
101 Door State: Closed
102 Elevator Stop: 1
103 Door Open Sig: 0
104 Door Close Sig: 0
105 Fire State: 0
106 X20 register: 16
107 Sound: 0
108
109 At time = 9
110 Elevator Floor: 3
111 Elevator State: Up
112 IR Sensor State: Sensor Off
113 Door State: Closed
114 Elevator Stop: 1
115 Door Open Sig: 0
116 Door Close Sig: 0
117 Fire State: 0
118 X20 register: 16
119 Sound: 0
120
121 At time = 10
122 Elevator Floor: 3
123 Elevator State: Waiting
124 IR Sensor State: Sensor Off
125 Door State: Latch and Sound
126 Elevator Stop: 0
127 Door Open Sig: 1
128 Door Close Sig: 1
129 Fire State: 0
130 X20 register: 16
131 Sound: 0
132
133 At time = 11
134 Elevator Floor: 3
135 Elevator State: Waiting
136 IR Sensor State: Sensor Off
137 Door State: Latch and Sound
138 Elevator Stop: 0
```

```
139 Door Open Sig: 1
140 Door Close Sig: 1
141 Fire State: 0
142 X20 register: 16
143 Sound: 0
144
145 At time = 12
146 Elevator Floor: 3
147 Elevator State: Waiting
148 IR Sensor State: Sensor Off
149 Door State: Open
150 Elevator Stop: 0
151 Door Open Sig: 1
152 Door Close Sig: 1
153 Fire State: 0
154 X20 register: 16
155 Sound: 1
156
157 At time = 13
158 Elevator Floor: 3
159 Elevator State: Waiting
160 IR Sensor State: Person Walking
161 Door State: Waiting for IR
162 Elevator Stop: 0
163 Door Open Sig: 1
164 Door Close Sig: 1
165 Fire State: 0
166 X20 register: 16
167 Sound: 0
168
169 At time = 14
170 Elevator Floor: 3
171 Elevator State: Waiting
172 IR Sensor State: Person Walking
173 Door State: Waiting for IR
174 Elevator Stop: 0
175 Door Open Sig: 1
176 Door Close Sig: 1
177 Fire State: 0
178 X20 register: 16
179 Sound: 0
180
181 At time = 15
182 Elevator Floor: 3
183 Elevator State: Waiting
184 IR Sensor State: Person Walking
185 Door State: Waiting for IR
186 Elevator Stop: 0
187 Door Open Sig: 1
188 Door Close Sig: 1
189 Fire State: 0
190 X20 register: 16
191 Sound: 0
192
193 At time = 16
194 Elevator Floor: 3
195 Elevator State: Waiting
196 IR Sensor State: Person Walking
197 Door State: Waiting for IR
198 Elevator Stop: 0
199 Door Open Sig: 1
200 Door Close Sig: 1
201 Fire State: 0
202 X20 register: 16
203 Sound: 0
204
205 At time = 17
206 Elevator Floor: 3
207 Elevator State: Waiting
```

```
208 IR Sensor State: Person Walking
209 Door State: Waiting for IR
210 Elevator Stop: 0
211 Door Open Sig: 1
212 Door Close Sig: 1
213 Fire State: 0
214 X20 register: 16
215 Sound: 0
216
217 At time = 18
218 Elevator Floor: 3
219 Elevator State: Waiting
220 IR Sensor State: Person Walking
221 Door State: Waiting for IR
222 Elevator Stop: 0
223 Door Open Sig: 1
224 Door Close Sig: 1
225 Fire State: 0
226 X20 register: 16
227 Sound: 0
228
229 At time = 19
230 Elevator Floor: 3
231 Elevator State: Waiting
232 IR Sensor State: Person Walking
233 Door State: Waiting for IR
234 Elevator Stop: 0
235 Door Open Sig: 1
236 Door Close Sig: 1
237 Fire State: 0
238 X20 register: 16
239 Sound: 0
240
241 At time = 20
242 Elevator Floor: 3
243 Elevator State: Waiting
244 IR Sensor State: Person Walking
245 Door State: Waiting for IR
246 Elevator Stop: 0
247 Door Open Sig: 1
248 Door Close Sig: 1
249 Fire State: 0
250 X20 register: 16
251 Sound: 0
252
253 At time = 21
254 Elevator Floor: 3
255 Elevator State: Waiting
256 IR Sensor State: Person Walking
257 Door State: Waiting for IR
258 Elevator Stop: 0
259 Door Open Sig: 1
260 Door Close Sig: 1
261 Fire State: 0
262 X20 register: 16
263 Sound: 0
264
265 At time = 22
266 Elevator Floor: 3
267 Elevator State: Waiting
268 IR Sensor State: Sensor Off
269 Door State: Door Closing
270 Elevator Stop: 0
271 Door Open Sig: 1
272 Door Close Sig: 1
273 Fire State: 0
274 X20 register: 16
275 Sound: 0
276
```

277 At time = 23
278 Elevator Floor: 2
279 Elevator State: Down
280 IR Sensor State: Sensor Off
281 Door State: Closed
282 Elevator Stop: 0
283 Door Open Sig: 0
284 Door Close Sig: 0
285 Fire State: 0
286 X20 register: 1
287 Sound: 0
288
289 At time = 24
290 Elevator Floor: 2
291 Elevator State: Down
292 IR Sensor State: Sensor Off
293 Door State: Closed
294 Elevator Stop: 0
295 Door Open Sig: 0
296 Door Close Sig: 0
297 Fire State: 0
298 X20 register: 1
299 Sound: 0
300
301 At time = 25
302 Elevator Floor: 2
303 Elevator State: Down
304 IR Sensor State: Sensor Off
305 Door State: Closed
306 Elevator Stop: 0
307 Door Open Sig: 0
308 Door Close Sig: 0
309 Fire State: 0
310 X20 register: 1
311 Sound: 0
312
313 At time = 26
314 Elevator Floor: 2
315 Elevator State: Down
316 IR Sensor State: Sensor Off
317 Door State: Closed
318 Elevator Stop: 0
319 Door Open Sig: 0
320 Door Close Sig: 0
321 Fire State: 0
322 X20 register: 1
323 Sound: 0
324
325 At time = 27
326 Elevator Floor: 2
327 Elevator State: Down
328 IR Sensor State: Sensor Off
329 Door State: Closed
330 Elevator Stop: 0
331 Door Open Sig: 0
332 Door Close Sig: 0
333 Fire State: 0
334 X20 register: 1
335 Sound: 0
336
337 At time = 28
338 Elevator Floor: 1
339 Elevator State: Down
340 IR Sensor State: Sensor Off
341 Door State: Closed
342 Elevator Stop: 1
343 Door Open Sig: 0
344 Door Close Sig: 0
345 Fire State: 0

```
346 X20 register: 4
347 Sound: 0
348
349 At time = 29
350 Elevator Floor: 1
351 Elevator State: Down
352 IR Sensor State: Sensor Off
353 Door State: Closed
354 Elevator Stop: 1
355 Door Open Sig: 0
356 Door Close Sig: 0
357 Fire State: 0
358 X20 register: 4
359 Sound: 0
360
361 At time = 30
362 Elevator Floor: 1
363 Elevator State: Down
364 IR Sensor State: Sensor Off
365 Door State: Closed
366 Elevator Stop: 1
367 Door Open Sig: 0
368 Door Close Sig: 0
369 Fire State: 0
370 X20 register: 4
371 Sound: 0
372
373 At time = 31
374 Elevator Floor: 1
375 Elevator State: Down
376 IR Sensor State: Sensor Off
377 Door State: Closed
378 Elevator Stop: 1
379 Door Open Sig: 0
380 Door Close Sig: 0
381 Fire State: 0
382 X20 register: 4
383 Sound: 0
384
385 At time = 32
386 Elevator Floor: 1
387 Elevator State: Down
388 IR Sensor State: Sensor Off
389 Door State: Closed
390 Elevator Stop: 1
391 Door Open Sig: 0
392 Door Close Sig: 0
393 Fire State: 0
394 X20 register: 4
395 Sound: 0
396
397 At time = 33
398 Elevator Floor: 1
399 Elevator State: Waiting
400 IR Sensor State: Sensor Off
401 Door State: Latch and Sound
402 Elevator Stop: 0
403 Door Open Sig: 1
404 Door Close Sig: 1
405 Fire State: 0
406 X20 register: 4
407 Sound: 0
408
409 At time = 34
410 Elevator Floor: 1
411 Elevator State: Waiting
412 IR Sensor State: Sensor Off
413 Door State: Latch and Sound
414 Elevator Stop: 0
```

415 Door Open Sig: 1
416 Door Close Sig: 1
417 Fire State: 0
418 X20 register: 4
419 Sound: 0
420
421 At time = 35
422 Elevator Floor: 1
423 Elevator State: Waiting
424 IR Sensor State: Sensor Off
425 Door State: Open
426 Elevator Stop: 0
427 Door Open Sig: 1
428 Door Close Sig: 1
429 Fire State: 0
430 X20 register: 4
431 Sound: 1
432
433 At time = 36
434 Elevator Floor: 1
435 Elevator State: Waiting
436 IR Sensor State: Person Walking
437 Door State: Waiting for IR
438 Elevator Stop: 0
439 Door Open Sig: 1
440 Door Close Sig: 1
441 Fire State: 0
442 X20 register: 4
443 Sound: 0
444
445 At time = 37
446 Elevator Floor: 1
447 Elevator State: Waiting
448 IR Sensor State: Person Walking
449 Door State: Waiting for IR
450 Elevator Stop: 0
451 Door Open Sig: 1
452 Door Close Sig: 1
453 Fire State: 0
454 X20 register: 4
455 Sound: 0
456
457 At time = 38
458 Elevator Floor: 1
459 Elevator State: Waiting
460 IR Sensor State: Sensor Off
461 Door State: Door Closing
462 Elevator Stop: 0
463 Door Open Sig: 1
464 Door Close Sig: 1
465 Fire State: 0
466 X20 register: 4
467 Sound: 0
468
469 At time = 39
470 Elevator Floor: 2
471 Elevator State: Up
472 IR Sensor State: Sensor Off
473 Door State: Closed
474 Elevator Stop: 1
475 Door Open Sig: 0
476 Door Close Sig: 0
477 Fire State: 0
478 X20 register: 64
479 Sound: 0
480
481 At time = 40
482 Elevator Floor: 2
483 Elevator State: Up

484 IR Sensor State: Sensor Off
485 Door State: Closed
486 Elevator Stop: 1
487 Door Open Sig: 0
488 Door Close Sig: 0
489 Fire State: 0
490 X20 register: 64
491 Sound: 0
492
493 At time = 41
494 Elevator Floor: 2
495 Elevator State: Up
496 IR Sensor State: Sensor Off
497 Door State: Closed
498 Elevator Stop: 1
499 Door Open Sig: 0
500 Door Close Sig: 0
501 Fire State: 0
502 X20 register: 64
503 Sound: 0
504
505 At time = 42
506 Elevator Floor: 2
507 Elevator State: Up
508 IR Sensor State: Sensor Off
509 Door State: Closed
510 Elevator Stop: 1
511 Door Open Sig: 0
512 Door Close Sig: 0
513 Fire State: 0
514 X20 register: 64
515 Sound: 0
516
517 At time = 43
518 Elevator Floor: 2
519 Elevator State: Up
520 IR Sensor State: Sensor Off
521 Door State: Closed
522 Elevator Stop: 1
523 Door Open Sig: 0
524 Door Close Sig: 0
525 Fire State: 0
526 X20 register: 64
527 Sound: 0
528
529 At time = 44
530 Elevator Floor: 2
531 Elevator State: Waiting
532 IR Sensor State: Sensor Off
533 Door State: Latch and Sound
534 Elevator Stop: 0
535 Door Open Sig: 1
536 Door Close Sig: 1
537 Fire State: 0
538 X20 register: 64
539 Sound: 0
540
541 At time = 45
542 Elevator Floor: 2
543 Elevator State: Waiting
544 IR Sensor State: Sensor Off
545 Door State: Latch and Sound
546 Elevator Stop: 0
547 Door Open Sig: 1
548 Door Close Sig: 1
549 Fire State: 0
550 X20 register: 64
551 Sound: 0
552

553 At time = 46
554 Elevator Floor: 2
555 Elevator State: Waiting
556 IR Sensor State: Sensor Off
557 Door State: Open
558 Elevator Stop: 0
559 Door Open Sig: 1
560 Door Close Sig: 1
561 Fire State: 0
562 X20 register: 64
563 Sound: 1
564
565 At time = 47
566 Elevator Floor: 2
567 Elevator State: Waiting
568 IR Sensor State: Person Walking
569 Door State: Waiting for IR
570 Elevator Stop: 0
571 Door Open Sig: 1
572 Door Close Sig: 1
573 Fire State: 0
574 X20 register: 64
575 Sound: 0
576
577 At time = 48
578 Elevator Floor: 2
579 Elevator State: Waiting
580 IR Sensor State: Person Walking
581 Door State: Waiting for IR
582 Elevator Stop: 0
583 Door Open Sig: 1
584 Door Close Sig: 1
585 Fire State: 0
586 X20 register: 64
587 Sound: 0
588
589 At time = 49
590 Elevator Floor: 2
591 Elevator State: Waiting
592 IR Sensor State: Sensor Off
593 Door State: Door Closing
594 Elevator Stop: 0
595 Door Open Sig: 1
596 Door Close Sig: 1
597 Fire State: 0
598 X20 register: 64
599 Sound: 0
600
601 At time = 50
602 Elevator Floor: 1
603 Elevator State: Down
604 IR Sensor State: Sensor Off
605 Door State: Closed
606 Elevator Stop: 0
607 Door Open Sig: 0
608 Door Close Sig: 0
609 Fire State: 0
610 X20 register: 2
611 Sound: 0
612
613 At time = 51
614 Elevator Floor: 1
615 Elevator State: Down
616 IR Sensor State: Sensor Off
617 Door State: Closed
618 Elevator Stop: 0
619 Door Open Sig: 0
620 Door Close Sig: 0
621 Fire State: 0

622 X20 register: 2
623 Sound: 0
624
625 At time = 52
626 Elevator Floor: 1
627 Elevator State: Down
628 IR Sensor State: Sensor Off
629 Door State: Closed
630 Elevator Stop: 0
631 Door Open Sig: 0
632 Door Close Sig: 0
633 Fire State: 0
634 X20 register: 2
635 Sound: 0
636
637 At time = 53
638 Elevator Floor: 1
639 Elevator State: Down
640 IR Sensor State: Sensor Off
641 Door State: Closed
642 Elevator Stop: 0
643 Door Open Sig: 0
644 Door Close Sig: 0
645 Fire State: 0
646 X20 register: 2
647 Sound: 0
648
649 At time = 54
650 Elevator Floor: 1
651 Elevator State: Down
652 IR Sensor State: Sensor Off
653 Door State: Closed
654 Elevator Stop: 0
655 Door Open Sig: 0
656 Door Close Sig: 0
657 Fire State: 0
658 X20 register: 2
659 Sound: 0
660
661 At time = 55
662 Elevator Floor: 0
663 Elevator State: Down
664 IR Sensor State: Sensor Off
665 Door State: Closed
666 Elevator Stop: 1
667 Door Open Sig: 0
668 Door Close Sig: 0
669 Fire State: 0
670 X20 register: 8
671 Sound: 0
672
673 At time = 56
674 Elevator Floor: 0
675 Elevator State: Down
676 IR Sensor State: Sensor Off
677 Door State: Closed
678 Elevator Stop: 1
679 Door Open Sig: 0
680 Door Close Sig: 0
681 Fire State: 0
682 X20 register: 8
683 Sound: 0
684
685 At time = 57
686 Elevator Floor: 0
687 Elevator State: Down
688 IR Sensor State: Sensor Off
689 Door State: Closed
690 Elevator Stop: 1

691 Door Open Sig: 0
692 Door Close Sig: 0
693 Fire State: 0
694 X20 register: 8
695 Sound: 0
696
697 At time = 58
698 Elevator Floor: 0
699 Elevator State: Down
700 IR Sensor State: Sensor Off
701 Door State: Closed
702 Elevator Stop: 1
703 Door Open Sig: 0
704 Door Close Sig: 0
705 Fire State: 0
706 X20 register: 8
707 Sound: 0
708
709 At time = 59
710 Elevator Floor: 0
711 Elevator State: Down
712 IR Sensor State: Sensor Off
713 Door State: Closed
714 Elevator Stop: 1
715 Door Open Sig: 0
716 Door Close Sig: 0
717 Fire State: 0
718 X20 register: 8
719 Sound: 0
720
721 At time = 60
722 Elevator Floor: 0
723 Elevator State: Waiting
724 IR Sensor State: Sensor Off
725 Door State: Latch and Sound
726 Elevator Stop: 0
727 Door Open Sig: 1
728 Door Close Sig: 1
729 Fire State: 0
730 X20 register: 8
731 Sound: 0
732
733 At time = 61
734 Elevator Floor: 0
735 Elevator State: Waiting
736 IR Sensor State: Sensor Off
737 Door State: Latch and Sound
738 Elevator Stop: 0
739 Door Open Sig: 1
740 Door Close Sig: 1
741 Fire State: 0
742 X20 register: 8
743 Sound: 0
744
745 At time = 62
746 Elevator Floor: 0
747 Elevator State: Waiting
748 IR Sensor State: Sensor Off
749 Door State: Open
750 Elevator Stop: 0
751 Door Open Sig: 1
752 Door Close Sig: 1
753 Fire State: 0
754 X20 register: 8
755 Sound: 1
756
757 At time = 63
758 Elevator Floor: 0
759 Elevator State: Waiting

760 IR Sensor State: Person Walking
761 Door State: Waiting for IR
762 Elevator Stop: 0
763 Door Open Sig: 1
764 Door Close Sig: 1
765 Fire State: 0
766 X20 register: 8
767 Sound: 0
768
769 At time = 64
770 Elevator Floor: 0
771 Elevator State: Waiting
772 IR Sensor State: Person Walking
773 Door State: Waiting for IR
774 Elevator Stop: 0
775 Door Open Sig: 1
776 Door Close Sig: 1
777 Fire State: 0
778 X20 register: 8
779 Sound: 0
780
781 At time = 65
782 Elevator Floor: 0
783 Elevator State: Waiting
784 IR Sensor State: Sensor Off
785 Door State: Door Closing
786 Elevator Stop: 0
787 Door Open Sig: 1
788 Door Close Sig: 1
789 Fire State: 0
790 X20 register: 8
791 Sound: 0
792
793 At time = 66
794 Elevator Floor: 0
795 Elevator State: Waiting
796 IR Sensor State: Sensor Off
797 Door State: Closed
798 Elevator Stop: 0
799 Door Open Sig: 0
800 Door Close Sig: 0
801 Fire State: 0
802 X20 register: 8
803 Sound: 0
804
805 At time = 67
806 Elevator Floor: 0
807 Elevator State: Waiting
808 IR Sensor State: Sensor Off
809 Door State: Closed
810 Elevator Stop: 0
811 Door Open Sig: 0
812 Door Close Sig: 0
813 Fire State: 0
814 X20 register: 8
815 Sound: 0
816
817 At time = 68
818 Elevator Floor: 0
819 Elevator State: Waiting
820 IR Sensor State: Sensor Off
821 Door State: Closed
822 Elevator Stop: 0
823 Door Open Sig: 0
824 Door Close Sig: 0
825 Fire State: 0
826 X20 register: 8
827 Sound: 0
828

829 At time = 69
830 Elevator Floor: 0
831 Elevator State: Waiting
832 IR Sensor State: Sensor Off
833 Door State: Closed
834 Elevator Stop: 0
835 Door Open Sig: 0
836 Door Close Sig: 0
837 Fire State: 0
838 X20 register: 8
839 Sound: 0
840
841 At time = 70
842 Elevator Floor: 0
843 Elevator State: Waiting
844 IR Sensor State: Sensor Off
845 Door State: Closed
846 Elevator Stop: 0
847 Door Open Sig: 0
848 Door Close Sig: 0
849 Fire State: 0
850 X20 register: 8
851 Sound: 0
852
853 At time = 71
854 Elevator Floor: 0
855 Elevator State: Waiting
856 IR Sensor State: Sensor Off
857 Door State: Closed
858 Elevator Stop: 0
859 Door Open Sig: 0
860 Door Close Sig: 0
861 Fire State: 0
862 X20 register: 8
863 Sound: 0
864
865 At time = 72
866 Elevator Floor: 0
867 Elevator State: Waiting
868 IR Sensor State: Sensor Off
869 Door State: Closed
870 Elevator Stop: 0
871 Door Open Sig: 0
872 Door Close Sig: 0
873 Fire State: 0
874 X20 register: 8
875 Sound: 0
876
877 At time = 73
878 Elevator Floor: 0
879 Elevator State: Waiting
880 IR Sensor State: Sensor Off
881 Door State: Closed
882 Elevator Stop: 0
883 Door Open Sig: 0
884 Door Close Sig: 0
885 Fire State: 0
886 X20 register: 8
887 Sound: 0
888
889 At time = 74
890 Elevator Floor: 0
891 Elevator State: Waiting
892 IR Sensor State: Sensor Off
893 Door State: Closed
894 Elevator Stop: 0
895 Door Open Sig: 0
896 Door Close Sig: 0
897 Fire State: 0

898 X20 register: 8
899 Sound: 0
900
901 At time = 75
902 Elevator Floor: 0
903 Elevator State: Waiting
904 IR Sensor State: Sensor Off
905 Door State: Closed
906 Elevator Stop: 0
907 Door Open Sig: 0
908 Door Close Sig: 0
909 Fire State: 0
910 X20 register: 8
911 Sound: 0
912
913 At time = 76
914 Elevator Floor: 0
915 Elevator State: Waiting
916 IR Sensor State: Sensor Off
917 Door State: Closed
918 Elevator Stop: 0
919 Door Open Sig: 0
920 Door Close Sig: 0
921 Fire State: 0
922 X20 register: 8
923 Sound: 0
924
925 At time = 77
926 Elevator Floor: 0
927 Elevator State: Waiting
928 IR Sensor State: Sensor Off
929 Door State: Closed
930 Elevator Stop: 0
931 Door Open Sig: 0
932 Door Close Sig: 0
933 Fire State: 0
934 X20 register: 8
935 Sound: 0
936
937 At time = 78
938 Elevator Floor: 0
939 Elevator State: Waiting
940 IR Sensor State: Sensor Off
941 Door State: Closed
942 Elevator Stop: 0
943 Door Open Sig: 0
944 Door Close Sig: 0
945 Fire State: 0
946 X20 register: 8
947 Sound: 0
948
949 At time = 79
950 Elevator Floor: 0
951 Elevator State: Waiting
952 IR Sensor State: Sensor Off
953 Door State: Closed
954 Elevator Stop: 0
955 Door Open Sig: 0
956 Door Close Sig: 0
957 Fire State: 0
958 X20 register: 8
959 Sound: 0
960
961 At time = 80
962 Elevator Floor: 0
963 Elevator State: Waiting
964 IR Sensor State: Sensor Off
965 Door State: Closed
966 Elevator Stop: 0

967 Door Open Sig: 0
968 Door Close Sig: 0
969 Fire State: 0
970 X20 register: 8
971 Sound: 0
972
973 At time = 81
974 Elevator Floor: 0
975 Elevator State: Waiting
976 IR Sensor State: Sensor Off
977 Door State: Closed
978 Elevator Stop: 0
979 Door Open Sig: 0
980 Door Close Sig: 0
981 Fire State: 0
982 X20 register: 8
983 Sound: 0
984
985 At time = 82
986 Elevator Floor: 0
987 Elevator State: Waiting
988 IR Sensor State: Sensor Off
989 Door State: Closed
990 Elevator Stop: 0
991 Door Open Sig: 0
992 Door Close Sig: 0
993 Fire State: 0
994 X20 register: 8
995 Sound: 0
996
997 At time = 83
998 Elevator Floor: 0
999 Elevator State: Waiting
1000 IR Sensor State: Sensor Off
1001 Door State: Closed
1002 Elevator Stop: 0
1003 Door Open Sig: 0
1004 Door Close Sig: 0
1005 Fire State: 0
1006 X20 register: 8
1007 Sound: 0
1008
1009 At time = 84
1010 Elevator Floor: 0
1011 Elevator State: Waiting
1012 IR Sensor State: Sensor Off
1013 Door State: Closed
1014 Elevator Stop: 0
1015 Door Open Sig: 0
1016 Door Close Sig: 0
1017 Fire State: 0
1018 X20 register: 8
1019 Sound: 0
1020
1021 At time = 85
1022 Elevator Floor: 0
1023 Elevator State: Waiting
1024 IR Sensor State: Sensor Off
1025 Door State: Closed
1026 Elevator Stop: 0
1027 Door Open Sig: 0
1028 Door Close Sig: 0
1029 Fire State: 0
1030 X20 register: 8
1031 Sound: 0
1032
1033 At time = 86
1034 Elevator Floor: 0
1035 Elevator State: Waiting

1036 IR Sensor State: Sensor Off
1037 Door State: Closed
1038 Elevator Stop: 0
1039 Door Open Sig: 0
1040 Door Close Sig: 0
1041 Fire State: 0
1042 X20 register: 8
1043 Sound: 0
1044
1045 At time = 87
1046 Elevator Floor: 0
1047 Elevator State: Waiting
1048 IR Sensor State: Sensor Off
1049 Door State: Closed
1050 Elevator Stop: 0
1051 Door Open Sig: 0
1052 Door Close Sig: 0
1053 Fire State: 0
1054 X20 register: 8
1055 Sound: 0
1056
1057 At time = 88
1058 Elevator Floor: 0
1059 Elevator State: Waiting
1060 IR Sensor State: Sensor Off
1061 Door State: Closed
1062 Elevator Stop: 0
1063 Door Open Sig: 0
1064 Door Close Sig: 0
1065 Fire State: 0
1066 X20 register: 8
1067 Sound: 0
1068
1069 At time = 89
1070 Elevator Floor: 0
1071 Elevator State: Waiting
1072 IR Sensor State: Sensor Off
1073 Door State: Closed
1074 Elevator Stop: 0
1075 Door Open Sig: 0
1076 Door Close Sig: 0
1077 Fire State: 0
1078 X20 register: 8
1079 Sound: 0
1080
1081 At time = 90
1082 Elevator Floor: 0
1083 Elevator State: Waiting
1084 IR Sensor State: Sensor Off
1085 Door State: Closed
1086 Elevator Stop: 0
1087 Door Open Sig: 0
1088 Door Close Sig: 0
1089 Fire State: 0
1090 X20 register: 8
1091 Sound: 0
1092
1093 At time = 91
1094 Elevator Floor: 0
1095 Elevator State: Waiting
1096 IR Sensor State: Sensor Off
1097 Door State: Closed
1098 Elevator Stop: 0
1099 Door Open Sig: 0
1100 Door Close Sig: 0
1101 Fire State: 0
1102 X20 register: 8
1103 Sound: 0
1104

1105 At time = 92
1106 Elevator Floor: 0
1107 Elevator State: Waiting
1108 IR Sensor State: Sensor Off
1109 Door State: Closed
1110 Elevator Stop: 0
1111 Door Open Sig: 0
1112 Door Close Sig: 0
1113 Fire State: 0
1114 X20 register: 8
1115 Sound: 0
1116
1117 At time = 93
1118 Elevator Floor: 0
1119 Elevator State: Waiting
1120 IR Sensor State: Sensor Off
1121 Door State: Closed
1122 Elevator Stop: 0
1123 Door Open Sig: 0
1124 Door Close Sig: 0
1125 Fire State: 0
1126 X20 register: 8
1127 Sound: 0
1128
1129 At time = 94
1130 Elevator Floor: 0
1131 Elevator State: Waiting
1132 IR Sensor State: Sensor Off
1133 Door State: Closed
1134 Elevator Stop: 0
1135 Door Open Sig: 0
1136 Door Close Sig: 0
1137 Fire State: 0
1138 X20 register: 8
1139 Sound: 0
1140
1141 At time = 95
1142 Elevator Floor: 0
1143 Elevator State: Waiting
1144 IR Sensor State: Sensor Off
1145 Door State: Closed
1146 Elevator Stop: 0
1147 Door Open Sig: 0
1148 Door Close Sig: 0
1149 Fire State: 0
1150 X20 register: 8
1151 Sound: 0
1152
1153 At time = 96
1154 Elevator Floor: 1
1155 Elevator State: Up
1156 IR Sensor State: Sensor Off
1157 Door State: Closed
1158 Elevator Stop: 0
1159 Door Open Sig: 0
1160 Door Close Sig: 0
1161 Fire State: 0
1162 X20 register: 128
1163 Sound: 0
1164
1165 At time = 97
1166 Elevator Floor: 1
1167 Elevator State: Up
1168 IR Sensor State: Sensor Off
1169 Door State: Closed
1170 Elevator Stop: 0
1171 Door Open Sig: 0
1172 Door Close Sig: 0
1173 Fire State: 0

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1174 X20 register: 128
1175 Sound: 0
1176
1177 At time = 98
1178 Elevator Floor: 1
1179 Elevator State: Up
1180 IR Sensor State: Sensor Off
1181 Door State: Closed
1182 Elevator Stop: 0
1183 Door Open Sig: 0
1184 Door Close Sig: 0
1185 Fire State: 0
1186 X20 register: 128
1187 Sound: 0
1188
1189 At time = 99
1190 Elevator Floor: 1
1191 Elevator State: Up
1192 IR Sensor State: Sensor Off
1193 Door State: Closed
1194 Elevator Stop: 0
1195 Door Open Sig: 0
1196 Door Close Sig: 0
1197 Fire State: 0
1198 X20 register: 128
1199 Sound: 0
1200
1201 At time = 100
1202 Elevator Floor: 1
1203 Elevator State: Up
1204 IR Sensor State: Sensor Off
1205 Door State: Closed
1206 Elevator Stop: 0
1207 Door Open Sig: 0
1208 Door Close Sig: 0
1209 Fire State: 0
1210 X20 register: 128
1211 Sound: 0
1212
1213 At time = 101
1214 Elevator Floor: 2
1215 Elevator State: Up
1216 IR Sensor State: Sensor Off
1217 Door State: Closed
1218 Elevator Stop: 1
1219 Door Open Sig: 0
1220 Door Close Sig: 0
1221 Fire State: 0
1222 X20 register: 64
1223 Sound: 0
1224
1225 At time = 102
1226 Elevator Floor: 2
1227 Elevator State: Up
1228 IR Sensor State: Sensor Off
1229 Door State: Closed
1230 Elevator Stop: 1
1231 Door Open Sig: 0
1232 Door Close Sig: 0
1233 Fire State: 0
1234 X20 register: 64
1235 Sound: 0
1236
1237 At time = 103
1238 Elevator Floor: 2
1239 Elevator State: Up
1240 IR Sensor State: Sensor Off
1241 Door State: Closed
1242 Elevator Stop: 1
```

1243 Door Open Sig: 0
1244 Door Close Sig: 0
1245 Fire State: 0
1246 X20 register: 64
1247 Sound: 0
1248
1249 At time = 104
1250 Elevator Floor: 2
1251 Elevator State: Up
1252 IR Sensor State: Sensor Off
1253 Door State: Closed
1254 Elevator Stop: 1
1255 Door Open Sig: 0
1256 Door Close Sig: 0
1257 Fire State: 0
1258 X20 register: 64
1259 Sound: 0
1260
1261 At time = 105
1262 Elevator Floor: 2
1263 Elevator State: Up
1264 IR Sensor State: Sensor Off
1265 Door State: Closed
1266 Elevator Stop: 1
1267 Door Open Sig: 0
1268 Door Close Sig: 0
1269 Fire State: 0
1270 X20 register: 64
1271 Sound: 0
1272
1273 At time = 106
1274 Elevator Floor: 2
1275 Elevator State: Waiting
1276 IR Sensor State: Sensor Off
1277 Door State: Latch and Sound
1278 Elevator Stop: 0
1279 Door Open Sig: 1
1280 Door Close Sig: 1
1281 Fire State: 0
1282 X20 register: 32
1283 Sound: 0
1284
1285 At time = 107
1286 Elevator Floor: 2
1287 Elevator State: Waiting
1288 IR Sensor State: Sensor Off
1289 Door State: Latch and Sound
1290 Elevator Stop: 0
1291 Door Open Sig: 1
1292 Door Close Sig: 1
1293 Fire State: 0
1294 X20 register: 32
1295 Sound: 0
1296
1297 At time = 108
1298 Elevator Floor: 2
1299 Elevator State: Waiting
1300 IR Sensor State: Sensor Off
1301 Door State: Open
1302 Elevator Stop: 0
1303 Door Open Sig: 1
1304 Door Close Sig: 1
1305 Fire State: 0
1306 X20 register: 32
1307 Sound: 1
1308
1309 At time = 109
1310 Elevator Floor: 2
1311 Elevator State: Waiting

1312 IR Sensor State: Person Walking
1313 Door State: Waiting for IR
1314 Elevator Stop: 0
1315 Door Open Sig: 1
1316 Door Close Sig: 1
1317 Fire State: 0
1318 X20 register: 32
1319 Sound: 0
1320
1321 At time = 110
1322 Elevator Floor: 2
1323 Elevator State: Waiting
1324 IR Sensor State: Person Walking
1325 Door State: Waiting for IR
1326 Elevator Stop: 0
1327 Door Open Sig: 1
1328 Door Close Sig: 1
1329 Fire State: 0
1330 X20 register: 32
1331 Sound: 0
1332
1333 At time = 111
1334 Elevator Floor: 2
1335 Elevator State: Waiting
1336 IR Sensor State: Sensor Off
1337 Door State: Door Closing
1338 Elevator Stop: 0
1339 Door Open Sig: 1
1340 Door Close Sig: 1
1341 Fire State: 0
1342 X20 register: 32
1343 Sound: 0
1344
1345 At time = 112
1346 Elevator Floor: 2
1347 Elevator State: Waiting
1348 IR Sensor State: Sensor Off
1349 Door State: Closed
1350 Elevator Stop: 0
1351 Door Open Sig: 0
1352 Door Close Sig: 0
1353 Fire State: 0
1354 X20 register: 32
1355 Sound: 0
1356
1357 At time = 113
1358 Elevator Floor: 2
1359 Elevator State: Waiting
1360 IR Sensor State: Sensor Off
1361 Door State: Closed
1362 Elevator Stop: 0
1363 Door Open Sig: 0
1364 Door Close Sig: 0
1365 Fire State: 0
1366 X20 register: 32
1367 Sound: 0
1368
1369 At time = 114
1370 Elevator Floor: 2
1371 Elevator State: Waiting
1372 IR Sensor State: Sensor Off
1373 Door State: Closed
1374 Elevator Stop: 0
1375 Door Open Sig: 0
1376 Door Close Sig: 0
1377 Fire State: 0
1378 X20 register: 32
1379 Sound: 0
1380

1381 At time = 115
1382 Elevator Floor: 2
1383 Elevator State: Waiting
1384 IR Sensor State: Sensor Off
1385 Door State: Closed
1386 Elevator Stop: 0
1387 Door Open Sig: 0
1388 Door Close Sig: 0
1389 Fire State: 0
1390 X20 register: 32
1391 Sound: 0
1392
1393 At time = 116
1394 Elevator Floor: 2
1395 Elevator State: Waiting
1396 IR Sensor State: Sensor Off
1397 Door State: Closed
1398 Elevator Stop: 0
1399 Door Open Sig: 0
1400 Door Close Sig: 0
1401 Fire State: 0
1402 X20 register: 32
1403 Sound: 0
1404
1405 At time = 117
1406 Elevator Floor: 2
1407 Elevator State: Waiting
1408 IR Sensor State: Sensor Off
1409 Door State: Closed
1410 Elevator Stop: 0
1411 Door Open Sig: 0
1412 Door Close Sig: 0
1413 Fire State: 0
1414 X20 register: 32
1415 Sound: 0
1416
1417 At time = 118
1418 Elevator Floor: 2
1419 Elevator State: Waiting
1420 IR Sensor State: Sensor Off
1421 Door State: Closed
1422 Elevator Stop: 0
1423 Door Open Sig: 0
1424 Door Close Sig: 0
1425 Fire State: 0
1426 X20 register: 32
1427 Sound: 0
1428
1429 At time = 119
1430 Elevator Floor: 2
1431 Elevator State: Waiting
1432 IR Sensor State: Sensor Off
1433 Door State: Closed
1434 Elevator Stop: 0
1435 Door Open Sig: 0
1436 Door Close Sig: 0
1437 Fire State: 0
1438 X20 register: 32
1439 Sound: 0
1440
1441 At time = 120
1442 Elevator Floor: 2
1443 Elevator State: Waiting
1444 IR Sensor State: Sensor Off
1445 Door State: Closed
1446 Elevator Stop: 0
1447 Door Open Sig: 0
1448 Door Close Sig: 0
1449 Fire State: 0

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1450 X20 register: 32
1451 Sound: 0
1452
1453 At time = 121
1454 Elevator Floor: 2
1455 Elevator State: Waiting
1456 IR Sensor State: Sensor Off
1457 Door State: Closed
1458 Elevator Stop: 0
1459 Door Open Sig: 0
1460 Door Close Sig: 0
1461 Fire State: 0
1462 X20 register: 32
1463 Sound: 0
1464
1465 At time = 122
1466 Elevator Floor: 2
1467 Elevator State: Waiting
1468 IR Sensor State: Sensor Off
1469 Door State: Closed
1470 Elevator Stop: 0
1471 Door Open Sig: 0
1472 Door Close Sig: 0
1473 Fire State: 0
1474 X20 register: 32
1475 Sound: 0
1476
1477 At time = 123
1478 Elevator Floor: 2
1479 Elevator State: Waiting
1480 IR Sensor State: Sensor Off
1481 Door State: Closed
1482 Elevator Stop: 0
1483 Door Open Sig: 0
1484 Door Close Sig: 0
1485 Fire State: 0
1486 X20 register: 32
1487 Sound: 0
1488
1489 At time = 124
1490 Elevator Floor: 2
1491 Elevator State: Waiting
1492 IR Sensor State: Sensor Off
1493 Door State: Closed
1494 Elevator Stop: 0
1495 Door Open Sig: 0
1496 Door Close Sig: 0
1497 Fire State: 0
1498 X20 register: 32
1499 Sound: 0
1500
1501 At time = 125
1502 Elevator Floor: 2
1503 Elevator State: Waiting
1504 IR Sensor State: Sensor Off
1505 Door State: Closed
1506 Elevator Stop: 0
1507 Door Open Sig: 0
1508 Door Close Sig: 0
1509 Fire State: 0
1510 X20 register: 32
1511 Sound: 0
1512
1513 At time = 126
1514 Elevator Floor: 2
1515 Elevator State: Waiting
1516 IR Sensor State: Sensor Off
1517 Door State: Closed
1518 Elevator Stop: 0
```

1519 Door Open Sig: 0
1520 Door Close Sig: 0
1521 Fire State: 0
1522 X20 register: 32
1523 Sound: 0
1524
1525 At time = 127
1526 Elevator Floor: 2
1527 Elevator State: Waiting
1528 IR Sensor State: Sensor Off
1529 Door State: Closed
1530 Elevator Stop: 0
1531 Door Open Sig: 0
1532 Door Close Sig: 0
1533 Fire State: 0
1534 X20 register: 32
1535 Sound: 0
1536
1537 At time = 128
1538 Elevator Floor: 2
1539 Elevator State: Waiting
1540 IR Sensor State: Sensor Off
1541 Door State: Closed
1542 Elevator Stop: 0
1543 Door Open Sig: 0
1544 Door Close Sig: 0
1545 Fire State: 0
1546 X20 register: 32
1547 Sound: 0
1548
1549 At time = 129
1550 Elevator Floor: 2
1551 Elevator State: Waiting
1552 IR Sensor State: Sensor Off
1553 Door State: Closed
1554 Elevator Stop: 0
1555 Door Open Sig: 0
1556 Door Close Sig: 0
1557 Fire State: 0
1558 X20 register: 32
1559 Sound: 0
1560
1561 At time = 130
1562 Elevator Floor: 2
1563 Elevator State: Waiting
1564 IR Sensor State: Sensor Off
1565 Door State: Closed
1566 Elevator Stop: 0
1567 Door Open Sig: 0
1568 Door Close Sig: 0
1569 Fire State: 0
1570 X20 register: 32
1571 Sound: 0
1572
1573 At time = 131
1574 Elevator Floor: 2
1575 Elevator State: Waiting
1576 IR Sensor State: Sensor Off
1577 Door State: Closed
1578 Elevator Stop: 0
1579 Door Open Sig: 0
1580 Door Close Sig: 0
1581 Fire State: 0
1582 X20 register: 32
1583 Sound: 0
1584
1585 At time = 132
1586 Elevator Floor: 2
1587 Elevator State: Waiting

1588 IR Sensor State: Sensor Off
1589 Door State: Closed
1590 Elevator Stop: 0
1591 Door Open Sig: 0
1592 Door Close Sig: 0
1593 Fire State: 0
1594 X20 register: 32
1595 Sound: 0
1596
1597 At time = 133
1598 Elevator Floor: 2
1599 Elevator State: Waiting
1600 IR Sensor State: Sensor Off
1601 Door State: Closed
1602 Elevator Stop: 0
1603 Door Open Sig: 0
1604 Door Close Sig: 0
1605 Fire State: 0
1606 X20 register: 32
1607 Sound: 0
1608
1609 At time = 134
1610 Elevator Floor: 2
1611 Elevator State: Waiting
1612 IR Sensor State: Sensor Off
1613 Door State: Closed
1614 Elevator Stop: 0
1615 Door Open Sig: 0
1616 Door Close Sig: 0
1617 Fire State: 0
1618 X20 register: 32
1619 Sound: 0
1620
1621 At time = 135
1622 Elevator Floor: 2
1623 Elevator State: Waiting
1624 IR Sensor State: Sensor Off
1625 Door State: Closed
1626 Elevator Stop: 0
1627 Door Open Sig: 0
1628 Door Close Sig: 0
1629 Fire State: 0
1630 X20 register: 32
1631 Sound: 0
1632
1633 At time = 136
1634 Elevator Floor: 2
1635 Elevator State: Waiting
1636 IR Sensor State: Sensor Off
1637 Door State: Closed
1638 Elevator Stop: 0
1639 Door Open Sig: 0
1640 Door Close Sig: 0
1641 Fire State: 0
1642 X20 register: 32
1643 Sound: 0
1644
1645 At time = 137
1646 Elevator Floor: 2
1647 Elevator State: Waiting
1648 IR Sensor State: Sensor Off
1649 Door State: Closed
1650 Elevator Stop: 0
1651 Door Open Sig: 0
1652 Door Close Sig: 0
1653 Fire State: 0
1654 X20 register: 32
1655 Sound: 0
1656

1657 At time = 138
1658 Elevator Floor: 2
1659 Elevator State: Waiting
1660 IR Sensor State: Sensor Off
1661 Door State: Closed
1662 Elevator Stop: 0
1663 Door Open Sig: 0
1664 Door Close Sig: 0
1665 Fire State: 0
1666 X20 register: 32
1667 Sound: 0
1668
1669 At time = 139
1670 Elevator Floor: 2
1671 Elevator State: Waiting
1672 IR Sensor State: Sensor Off
1673 Door State: Closed
1674 Elevator Stop: 0
1675 Door Open Sig: 0
1676 Door Close Sig: 0
1677 Fire State: 0
1678 X20 register: 32
1679 Sound: 0
1680
1681 At time = 140
1682 Elevator Floor: 2
1683 Elevator State: Waiting
1684 IR Sensor State: Sensor Off
1685 Door State: Closed
1686 Elevator Stop: 0
1687 Door Open Sig: 0
1688 Door Close Sig: 0
1689 Fire State: 0
1690 X20 register: 32
1691 Sound: 0

```
1 hour 13
2 min 59
3 erst 2
4 mem 0
5 start 1
6 waitff 0
7 iron 1
8 waitfd 3
9 wait 3
10 iron 0
11 waitfd 0
12 wait 2
13 mem 3
14 waitfd 3
15 waitfd 0
16 mem 1
17 waitff 2
18 fire 1
19 mem 0
20 waitfd 1
21 dooro 1
22 waitfd 3
23 wait 4
24 doorc 1
25 mem 3
26 waitfd 1
27 dooro 1
28 waitfd 3
29 wait 6
30 doorc 1
31 waitfd 0
32 wait 1
33 mem 0
34 waitfd 1
35 dooro 1
36 doorc 1
37 waitfd 0
38 fire 0
```

```
1 At time = 0
2 Elevator Floor: 2
3 Elevator State: Up
4 IR Sensor State: Sensor Off
5 Door State: Closed
6 Elevator Stop: 0
7 Door Open Sig: 0
8 Door Close Sig: 0
9 Fire State: 0
10 X20 register: 64
11 Sound: 0
12
13 At time = 1
14 Elevator Floor: 2
15 Elevator State: Up
16 IR Sensor State: Sensor Off
17 Door State: Closed
18 Elevator Stop: 0
19 Door Open Sig: 0
20 Door Close Sig: 0
21 Fire State: 0
22 X20 register: 64
23 Sound: 0
24
25 At time = 2
26 Elevator Floor: 2
27 Elevator State: Up
28 IR Sensor State: Sensor Off
29 Door State: Closed
30 Elevator Stop: 0
31 Door Open Sig: 0
32 Door Close Sig: 0
33 Fire State: 0
34 X20 register: 64
35 Sound: 0
36
37 At time = 3
38 Elevator Floor: 2
39 Elevator State: Up
40 IR Sensor State: Sensor Off
41 Door State: Closed
42 Elevator Stop: 0
43 Door Open Sig: 0
44 Door Close Sig: 0
45 Fire State: 0
46 X20 register: 64
47 Sound: 0
48
49 At time = 4
50 Elevator Floor: 2
51 Elevator State: Up
52 IR Sensor State: Sensor Off
53 Door State: Closed
54 Elevator Stop: 0
55 Door Open Sig: 0
56 Door Close Sig: 0
57 Fire State: 0
58 X20 register: 64
59 Sound: 0
60
61 At time = 5
62 Elevator Floor: 3
63 Elevator State: Up
64 IR Sensor State: Sensor Off
65 Door State: Closed
66 Elevator Stop: 1
67 Door Open Sig: 0
68 Door Close Sig: 0
69 Fire State: 0
```

```
70 X20 register: 32
71 Sound: 0
72
73 At time = 6
74 Elevator Floor: 3
75 Elevator State: Up
76 IR Sensor State: Sensor Off
77 Door State: Closed
78 Elevator Stop: 1
79 Door Open Sig: 0
80 Door Close Sig: 0
81 Fire State: 0
82 X20 register: 32
83 Sound: 0
84
85 At time = 7
86 Elevator Floor: 3
87 Elevator State: Up
88 IR Sensor State: Sensor Off
89 Door State: Closed
90 Elevator Stop: 1
91 Door Open Sig: 0
92 Door Close Sig: 0
93 Fire State: 0
94 X20 register: 32
95 Sound: 0
96
97 At time = 8
98 Elevator Floor: 3
99 Elevator State: Up
100 IR Sensor State: Sensor Off
101 Door State: Closed
102 Elevator Stop: 1
103 Door Open Sig: 0
104 Door Close Sig: 0
105 Fire State: 0
106 X20 register: 32
107 Sound: 0
108
109 At time = 9
110 Elevator Floor: 3
111 Elevator State: Up
112 IR Sensor State: Sensor Off
113 Door State: Closed
114 Elevator Stop: 1
115 Door Open Sig: 0
116 Door Close Sig: 0
117 Fire State: 0
118 X20 register: 32
119 Sound: 0
120
121 At time = 10
122 Elevator Floor: 3
123 Elevator State: Waiting
124 IR Sensor State: Sensor Off
125 Door State: Latch and Sound
126 Elevator Stop: 0
127 Door Open Sig: 1
128 Door Close Sig: 1
129 Fire State: 0
130 X20 register: 16
131 Sound: 0
132
133 At time = 11
134 Elevator Floor: 3
135 Elevator State: Waiting
136 IR Sensor State: Sensor Off
137 Door State: Latch and Sound
138 Elevator Stop: 0
```

```
139 Door Open Sig: 1
140 Door Close Sig: 1
141 Fire State: 0
142 X20 register: 16
143 Sound: 0
144
145 At time = 12
146 Elevator Floor: 3
147 Elevator State: Waiting
148 IR Sensor State: Sensor Off
149 Door State: Open
150 Elevator Stop: 0
151 Door Open Sig: 1
152 Door Close Sig: 1
153 Fire State: 0
154 X20 register: 16
155 Sound: 1
156
157 At time = 13
158 Elevator Floor: 3
159 Elevator State: Waiting
160 IR Sensor State: Person Walking
161 Door State: Waiting for IR
162 Elevator Stop: 0
163 Door Open Sig: 1
164 Door Close Sig: 1
165 Fire State: 0
166 X20 register: 16
167 Sound: 0
168
169 At time = 14
170 Elevator Floor: 3
171 Elevator State: Waiting
172 IR Sensor State: Person Walking
173 Door State: Waiting for IR
174 Elevator Stop: 0
175 Door Open Sig: 1
176 Door Close Sig: 1
177 Fire State: 0
178 X20 register: 16
179 Sound: 0
180
181 At time = 15
182 Elevator Floor: 3
183 Elevator State: Waiting
184 IR Sensor State: Person Walking
185 Door State: Waiting for IR
186 Elevator Stop: 0
187 Door Open Sig: 1
188 Door Close Sig: 1
189 Fire State: 0
190 X20 register: 16
191 Sound: 0
192
193 At time = 16
194 Elevator Floor: 3
195 Elevator State: Waiting
196 IR Sensor State: Person Walking
197 Door State: Waiting for IR
198 Elevator Stop: 0
199 Door Open Sig: 1
200 Door Close Sig: 1
201 Fire State: 0
202 X20 register: 16
203 Sound: 0
204
205 At time = 17
206 Elevator Floor: 3
207 Elevator State: Waiting
```

```
208 IR Sensor State: Person Walking
209 Door State: Waiting for IR
210 Elevator Stop: 0
211 Door Open Sig: 1
212 Door Close Sig: 1
213 Fire State: 0
214 X20 register: 16
215 Sound: 0
216
217 At time = 18
218 Elevator Floor: 3
219 Elevator State: Waiting
220 IR Sensor State: Person Walking
221 Door State: Waiting for IR
222 Elevator Stop: 0
223 Door Open Sig: 1
224 Door Close Sig: 1
225 Fire State: 0
226 X20 register: 16
227 Sound: 0
228
229 At time = 19
230 Elevator Floor: 3
231 Elevator State: Waiting
232 IR Sensor State: Person Walking
233 Door State: Waiting for IR
234 Elevator Stop: 0
235 Door Open Sig: 1
236 Door Close Sig: 1
237 Fire State: 0
238 X20 register: 16
239 Sound: 0
240
241 At time = 20
242 Elevator Floor: 3
243 Elevator State: Waiting
244 IR Sensor State: Person Walking
245 Door State: Waiting for IR
246 Elevator Stop: 0
247 Door Open Sig: 1
248 Door Close Sig: 1
249 Fire State: 0
250 X20 register: 16
251 Sound: 0
252
253 At time = 21
254 Elevator Floor: 3
255 Elevator State: Waiting
256 IR Sensor State: Person Walking
257 Door State: Waiting for IR
258 Elevator Stop: 0
259 Door Open Sig: 1
260 Door Close Sig: 1
261 Fire State: 0
262 X20 register: 16
263 Sound: 0
264
265 At time = 22
266 Elevator Floor: 3
267 Elevator State: Waiting
268 IR Sensor State: Sensor Off
269 Door State: Door Closing
270 Elevator Stop: 0
271 Door Open Sig: 1
272 Door Close Sig: 1
273 Fire State: 0
274 X20 register: 16
275 Sound: 0
276
```

277 At time = 23
278 Elevator Floor: 2
279 Elevator State: Down
280 IR Sensor State: Sensor Off
281 Door State: Closed
282 Elevator Stop: 0
283 Door Open Sig: 0
284 Door Close Sig: 0
285 Fire State: 0
286 X20 register: 1
287 Sound: 0
288
289 At time = 24
290 Elevator Floor: 2
291 Elevator State: Down
292 IR Sensor State: Sensor Off
293 Door State: Closed
294 Elevator Stop: 0
295 Door Open Sig: 0
296 Door Close Sig: 0
297 Fire State: 0
298 X20 register: 1
299 Sound: 0
300
301 At time = 25
302 Elevator Floor: 2
303 Elevator State: Down
304 IR Sensor State: Sensor Off
305 Door State: Closed
306 Elevator Stop: 0
307 Door Open Sig: 0
308 Door Close Sig: 0
309 Fire State: 0
310 X20 register: 1
311 Sound: 0
312
313 At time = 26
314 Elevator Floor: 2
315 Elevator State: Down
316 IR Sensor State: Sensor Off
317 Door State: Closed
318 Elevator Stop: 0
319 Door Open Sig: 0
320 Door Close Sig: 0
321 Fire State: 0
322 X20 register: 1
323 Sound: 0
324
325 At time = 27
326 Elevator Floor: 2
327 Elevator State: Down
328 IR Sensor State: Sensor Off
329 Door State: Closed
330 Elevator Stop: 0
331 Door Open Sig: 0
332 Door Close Sig: 0
333 Fire State: 0
334 X20 register: 1
335 Sound: 0
336
337 At time = 28
338 Elevator Floor: 1
339 Elevator State: Down
340 IR Sensor State: Sensor Off
341 Door State: Closed
342 Elevator Stop: 1
343 Door Open Sig: 0
344 Door Close Sig: 0
345 Fire State: 0

```
346 X20 register: 2
347 Sound: 0
348
349 At time = 29
350 Elevator Floor: 1
351 Elevator State: Down
352 IR Sensor State: Sensor Off
353 Door State: Closed
354 Elevator Stop: 1
355 Door Open Sig: 0
356 Door Close Sig: 0
357 Fire State: 0
358 X20 register: 2
359 Sound: 0
360
361 At time = 30
362 Elevator Floor: 1
363 Elevator State: Down
364 IR Sensor State: Sensor Off
365 Door State: Closed
366 Elevator Stop: 1
367 Door Open Sig: 0
368 Door Close Sig: 0
369 Fire State: 0
370 X20 register: 2
371 Sound: 0
372
373 At time = 31
374 Elevator Floor: 1
375 Elevator State: Down
376 IR Sensor State: Sensor Off
377 Door State: Closed
378 Elevator Stop: 1
379 Door Open Sig: 0
380 Door Close Sig: 0
381 Fire State: 0
382 X20 register: 2
383 Sound: 0
384
385 At time = 32
386 Elevator Floor: 1
387 Elevator State: Down
388 IR Sensor State: Sensor Off
389 Door State: Closed
390 Elevator Stop: 1
391 Door Open Sig: 0
392 Door Close Sig: 0
393 Fire State: 0
394 X20 register: 2
395 Sound: 0
396
397 At time = 33
398 Elevator Floor: 1
399 Elevator State: Waiting
400 IR Sensor State: Sensor Off
401 Door State: Latch and Sound
402 Elevator Stop: 0
403 Door Open Sig: 1
404 Door Close Sig: 1
405 Fire State: 0
406 X20 register: 4
407 Sound: 0
408
409 At time = 34
410 Elevator Floor: 1
411 Elevator State: Waiting
412 IR Sensor State: Sensor Off
413 Door State: Latch and Sound
414 Elevator Stop: 0
```

415 Door Open Sig: 1
416 Door Close Sig: 1
417 Fire State: 0
418 X20 register: 4
419 Sound: 0
420
421 At time = 35
422 Elevator Floor: 1
423 Elevator State: Waiting
424 IR Sensor State: Sensor Off
425 Door State: Open
426 Elevator Stop: 0
427 Door Open Sig: 1
428 Door Close Sig: 1
429 Fire State: 0
430 X20 register: 4
431 Sound: 1
432
433 At time = 36
434 Elevator Floor: 1
435 Elevator State: Waiting
436 IR Sensor State: Person Walking
437 Door State: Waiting for IR
438 Elevator Stop: 0
439 Door Open Sig: 1
440 Door Close Sig: 1
441 Fire State: 0
442 X20 register: 4
443 Sound: 0
444
445 At time = 37
446 Elevator Floor: 1
447 Elevator State: Waiting
448 IR Sensor State: Person Walking
449 Door State: Waiting for IR
450 Elevator Stop: 0
451 Door Open Sig: 1
452 Door Close Sig: 1
453 Fire State: 0
454 X20 register: 4
455 Sound: 0
456
457 At time = 38
458 Elevator Floor: 1
459 Elevator State: Waiting
460 IR Sensor State: Sensor Off
461 Door State: Door Closing
462 Elevator Stop: 0
463 Door Open Sig: 1
464 Door Close Sig: 1
465 Fire State: 0
466 X20 register: 4
467 Sound: 0
468
469 At time = 39
470 Elevator Floor: 2
471 Elevator State: Up
472 IR Sensor State: Sensor Off
473 Door State: Closed
474 Elevator Stop: 1
475 Door Open Sig: 0
476 Door Close Sig: 0
477 Fire State: 0
478 X20 register: 64
479 Sound: 0
480
481 At time = 40
482 Elevator Floor: 2
483 Elevator State: Up

484 IR Sensor State: Sensor Off
485 Door State: Closed
486 Elevator Stop: 1
487 Door Open Sig: 0
488 Door Close Sig: 0
489 Fire State: 0
490 X20 register: 64
491 Sound: 0
492
493 At time = 41
494 Elevator Floor: 2
495 Elevator State: Up
496 IR Sensor State: Sensor Off
497 Door State: Closed
498 Elevator Stop: 1
499 Door Open Sig: 0
500 Door Close Sig: 0
501 Fire State: 0
502 X20 register: 64
503 Sound: 0
504
505 At time = 42
506 Elevator Floor: 2
507 Elevator State: Up
508 IR Sensor State: Sensor Off
509 Door State: Closed
510 Elevator Stop: 1
511 Door Open Sig: 0
512 Door Close Sig: 0
513 Fire State: 0
514 X20 register: 64
515 Sound: 0
516
517 At time = 43
518 Elevator Floor: 2
519 Elevator State: Up
520 IR Sensor State: Sensor Off
521 Door State: Closed
522 Elevator Stop: 1
523 Door Open Sig: 0
524 Door Close Sig: 0
525 Fire State: 0
526 X20 register: 64
527 Sound: 0
528
529 At time = 44
530 Elevator Floor: 2
531 Elevator State: Waiting
532 IR Sensor State: Sensor Off
533 Door State: Latch and Sound
534 Elevator Stop: 0
535 Door Open Sig: 1
536 Door Close Sig: 1
537 Fire State: 0
538 X20 register: 64
539 Sound: 0
540
541 At time = 45
542 Elevator Floor: 2
543 Elevator State: Waiting
544 IR Sensor State: Sensor Off
545 Door State: Latch and Sound
546 Elevator Stop: 0
547 Door Open Sig: 1
548 Door Close Sig: 1
549 Fire State: 0
550 X20 register: 64
551 Sound: 0
552

553 At time = 46
554 Elevator Floor: 2
555 Elevator State: Waiting
556 IR Sensor State: Sensor Off
557 Door State: Open
558 Elevator Stop: 0
559 Door Open Sig: 1
560 Door Close Sig: 1
561 Fire State: 0
562 X20 register: 64
563 Sound: 1
564
565 At time = 47
566 Elevator Floor: 2
567 Elevator State: Waiting
568 IR Sensor State: Person Walking
569 Door State: Waiting for IR
570 Elevator Stop: 0
571 Door Open Sig: 1
572 Door Close Sig: 1
573 Fire State: 0
574 X20 register: 64
575 Sound: 0
576
577 At time = 48
578 Elevator Floor: 2
579 Elevator State: Waiting
580 IR Sensor State: Person Walking
581 Door State: Waiting for IR
582 Elevator Stop: 0
583 Door Open Sig: 1
584 Door Close Sig: 1
585 Fire State: 0
586 X20 register: 64
587 Sound: 0
588
589 At time = 49
590 Elevator Floor: 2
591 Elevator State: Waiting
592 IR Sensor State: Sensor Off
593 Door State: Door Closing
594 Elevator Stop: 0
595 Door Open Sig: 1
596 Door Close Sig: 1
597 Fire State: 0
598 X20 register: 64
599 Sound: 0
600
601 At time = 50
602 Elevator Floor: 1
603 Elevator State: Down
604 IR Sensor State: Sensor Off
605 Door State: Closed
606 Elevator Stop: 0
607 Door Open Sig: 0
608 Door Close Sig: 0
609 Fire State: 0
610 X20 register: 4
611 Sound: 0
612
613 At time = 51
614 Elevator Floor: 1
615 Elevator State: Down
616 IR Sensor State: Sensor Off
617 Door State: Closed
618 Elevator Stop: 0
619 Door Open Sig: 0
620 Door Close Sig: 0
621 Fire State: 0

622 X20 register: 4
623 Sound: 0
624
625 At time = 52
626 Elevator Floor: 1
627 Elevator State: Down
628 IR Sensor State: Sensor Off
629 Door State: Closed
630 Elevator Stop: 0
631 Door Open Sig: 0
632 Door Close Sig: 0
633 Fire State: 0
634 X20 register: 4
635 Sound: 0
636
637 At time = 53
638 Elevator Floor: 1
639 Elevator State: Down
640 IR Sensor State: Sensor Off
641 Door State: Closed
642 Elevator Stop: 0
643 Door Open Sig: 0
644 Door Close Sig: 0
645 Fire State: 0
646 X20 register: 4
647 Sound: 0
648
649 At time = 54
650 Elevator Floor: 1
651 Elevator State: Down
652 IR Sensor State: Sensor Off
653 Door State: Closed
654 Elevator Stop: 0
655 Door Open Sig: 0
656 Door Close Sig: 0
657 Fire State: 0
658 X20 register: 4
659 Sound: 0
660
661 At time = 55
662 Elevator Floor: 0
663 Elevator State: Down
664 IR Sensor State: Sensor Off
665 Door State: Closed
666 Elevator Stop: 1
667 Door Open Sig: 0
668 Door Close Sig: 0
669 Fire State: 0
670 X20 register: 8
671 Sound: 0
672
673 At time = 56
674 Elevator Floor: 0
675 Elevator State: Down
676 IR Sensor State: Sensor Off
677 Door State: Closed
678 Elevator Stop: 1
679 Door Open Sig: 0
680 Door Close Sig: 0
681 Fire State: 0
682 X20 register: 8
683 Sound: 0
684
685 At time = 57
686 Elevator Floor: 0
687 Elevator State: Down
688 IR Sensor State: Sensor Off
689 Door State: Closed
690 Elevator Stop: 1

691 Door Open Sig: 0
692 Door Close Sig: 0
693 Fire State: 0
694 X20 register: 8
695 Sound: 0
696
697 At time = 58
698 Elevator Floor: 0
699 Elevator State: Down
700 IR Sensor State: Sensor Off
701 Door State: Closed
702 Elevator Stop: 1
703 Door Open Sig: 0
704 Door Close Sig: 0
705 Fire State: 0
706 X20 register: 8
707 Sound: 0
708
709 At time = 59
710 Elevator Floor: 0
711 Elevator State: Down
712 IR Sensor State: Sensor Off
713 Door State: Closed
714 Elevator Stop: 1
715 Door Open Sig: 0
716 Door Close Sig: 0
717 Fire State: 0
718 X20 register: 8
719 Sound: 0
720
721 At time = 60
722 Elevator Floor: 0
723 Elevator State: Waiting
724 IR Sensor State: Sensor Off
725 Door State: Latch and Sound
726 Elevator Stop: 0
727 Door Open Sig: 1
728 Door Close Sig: 1
729 Fire State: 0
730 X20 register: 8
731 Sound: 0
732
733 At time = 61
734 Elevator Floor: 0
735 Elevator State: Waiting
736 IR Sensor State: Sensor Off
737 Door State: Latch and Sound
738 Elevator Stop: 0
739 Door Open Sig: 1
740 Door Close Sig: 1
741 Fire State: 0
742 X20 register: 8
743 Sound: 0
744
745 At time = 62
746 Elevator Floor: 0
747 Elevator State: Waiting
748 IR Sensor State: Sensor Off
749 Door State: Open
750 Elevator Stop: 0
751 Door Open Sig: 1
752 Door Close Sig: 1
753 Fire State: 0
754 X20 register: 8
755 Sound: 1
756
757 At time = 63
758 Elevator Floor: 0
759 Elevator State: Waiting

760 IR Sensor State: Person Walking
761 Door State: Waiting for IR
762 Elevator Stop: 0
763 Door Open Sig: 1
764 Door Close Sig: 1
765 Fire State: 0
766 X20 register: 8
767 Sound: 0
768
769 At time = 64
770 Elevator Floor: 0
771 Elevator State: Waiting
772 IR Sensor State: Person Walking
773 Door State: Waiting for IR
774 Elevator Stop: 0
775 Door Open Sig: 1
776 Door Close Sig: 1
777 Fire State: 0
778 X20 register: 8
779 Sound: 0
780
781 At time = 65
782 Elevator Floor: 0
783 Elevator State: Waiting
784 IR Sensor State: Sensor Off
785 Door State: Door Closing
786 Elevator Stop: 0
787 Door Open Sig: 1
788 Door Close Sig: 1
789 Fire State: 0
790 X20 register: 8
791 Sound: 0
792
793 At time = 66
794 Elevator Floor: 0
795 Elevator State: Waiting
796 IR Sensor State: Sensor Off
797 Door State: Closed
798 Elevator Stop: 0
799 Door Open Sig: 0
800 Door Close Sig: 0
801 Fire State: 0
802 X20 register: 8
803 Sound: 0
804
805 At time = 67
806 Elevator Floor: 0
807 Elevator State: Waiting
808 IR Sensor State: Sensor Off
809 Door State: Closed
810 Elevator Stop: 0
811 Door Open Sig: 0
812 Door Close Sig: 0
813 Fire State: 0
814 X20 register: 8
815 Sound: 0
816
817 At time = 68
818 Elevator Floor: 0
819 Elevator State: Waiting
820 IR Sensor State: Sensor Off
821 Door State: Closed
822 Elevator Stop: 0
823 Door Open Sig: 0
824 Door Close Sig: 0
825 Fire State: 0
826 X20 register: 8
827 Sound: 0
828

829 At time = 69
830 Elevator Floor: 0
831 Elevator State: Waiting
832 IR Sensor State: Sensor Off
833 Door State: Closed
834 Elevator Stop: 0
835 Door Open Sig: 0
836 Door Close Sig: 0
837 Fire State: 0
838 X20 register: 8
839 Sound: 0
840
841 At time = 70
842 Elevator Floor: 0
843 Elevator State: Waiting
844 IR Sensor State: Sensor Off
845 Door State: Closed
846 Elevator Stop: 0
847 Door Open Sig: 0
848 Door Close Sig: 0
849 Fire State: 0
850 X20 register: 8
851 Sound: 0
852
853 At time = 71
854 Elevator Floor: 0
855 Elevator State: Waiting
856 IR Sensor State: Sensor Off
857 Door State: Closed
858 Elevator Stop: 0
859 Door Open Sig: 0
860 Door Close Sig: 0
861 Fire State: 0
862 X20 register: 8
863 Sound: 0
864
865 At time = 72
866 Elevator Floor: 0
867 Elevator State: Waiting
868 IR Sensor State: Sensor Off
869 Door State: Closed
870 Elevator Stop: 0
871 Door Open Sig: 0
872 Door Close Sig: 0
873 Fire State: 0
874 X20 register: 8
875 Sound: 0
876
877 At time = 73
878 Elevator Floor: 0
879 Elevator State: Waiting
880 IR Sensor State: Sensor Off
881 Door State: Closed
882 Elevator Stop: 0
883 Door Open Sig: 0
884 Door Close Sig: 0
885 Fire State: 0
886 X20 register: 8
887 Sound: 0
888
889 At time = 74
890 Elevator Floor: 0
891 Elevator State: Waiting
892 IR Sensor State: Sensor Off
893 Door State: Closed
894 Elevator Stop: 0
895 Door Open Sig: 0
896 Door Close Sig: 0
897 Fire State: 0

898 X20 register: 8
899 Sound: 0
900
901 At time = 75
902 Elevator Floor: 0
903 Elevator State: Waiting
904 IR Sensor State: Sensor Off
905 Door State: Closed
906 Elevator Stop: 0
907 Door Open Sig: 0
908 Door Close Sig: 0
909 Fire State: 0
910 X20 register: 8
911 Sound: 0
912
913 At time = 76
914 Elevator Floor: 0
915 Elevator State: Waiting
916 IR Sensor State: Sensor Off
917 Door State: Closed
918 Elevator Stop: 0
919 Door Open Sig: 0
920 Door Close Sig: 0
921 Fire State: 0
922 X20 register: 8
923 Sound: 0
924
925 At time = 77
926 Elevator Floor: 0
927 Elevator State: Waiting
928 IR Sensor State: Sensor Off
929 Door State: Closed
930 Elevator Stop: 0
931 Door Open Sig: 0
932 Door Close Sig: 0
933 Fire State: 0
934 X20 register: 8
935 Sound: 0
936
937 At time = 78
938 Elevator Floor: 0
939 Elevator State: Waiting
940 IR Sensor State: Sensor Off
941 Door State: Closed
942 Elevator Stop: 0
943 Door Open Sig: 0
944 Door Close Sig: 0
945 Fire State: 0
946 X20 register: 8
947 Sound: 0
948
949 At time = 79
950 Elevator Floor: 0
951 Elevator State: Waiting
952 IR Sensor State: Sensor Off
953 Door State: Closed
954 Elevator Stop: 0
955 Door Open Sig: 0
956 Door Close Sig: 0
957 Fire State: 0
958 X20 register: 8
959 Sound: 0
960
961 At time = 80
962 Elevator Floor: 0
963 Elevator State: Waiting
964 IR Sensor State: Sensor Off
965 Door State: Closed
966 Elevator Stop: 0

967 Door Open Sig: 0
968 Door Close Sig: 0
969 Fire State: 0
970 X20 register: 8
971 Sound: 0
972
973 At time = 81
974 Elevator Floor: 0
975 Elevator State: Waiting
976 IR Sensor State: Sensor Off
977 Door State: Closed
978 Elevator Stop: 0
979 Door Open Sig: 0
980 Door Close Sig: 0
981 Fire State: 0
982 X20 register: 8
983 Sound: 0
984
985 At time = 82
986 Elevator Floor: 0
987 Elevator State: Waiting
988 IR Sensor State: Sensor Off
989 Door State: Closed
990 Elevator Stop: 0
991 Door Open Sig: 0
992 Door Close Sig: 0
993 Fire State: 0
994 X20 register: 8
995 Sound: 0
996
997 At time = 83
998 Elevator Floor: 0
999 Elevator State: Waiting
1000 IR Sensor State: Sensor Off
1001 Door State: Closed
1002 Elevator Stop: 0
1003 Door Open Sig: 0
1004 Door Close Sig: 0
1005 Fire State: 0
1006 X20 register: 8
1007 Sound: 0
1008
1009 At time = 84
1010 Elevator Floor: 0
1011 Elevator State: Waiting
1012 IR Sensor State: Sensor Off
1013 Door State: Closed
1014 Elevator Stop: 0
1015 Door Open Sig: 0
1016 Door Close Sig: 0
1017 Fire State: 0
1018 X20 register: 8
1019 Sound: 0
1020
1021 At time = 85
1022 Elevator Floor: 0
1023 Elevator State: Waiting
1024 IR Sensor State: Sensor Off
1025 Door State: Closed
1026 Elevator Stop: 0
1027 Door Open Sig: 0
1028 Door Close Sig: 0
1029 Fire State: 0
1030 X20 register: 8
1031 Sound: 0
1032
1033 At time = 86
1034 Elevator Floor: 0
1035 Elevator State: Waiting

1036 IR Sensor State: Sensor Off
1037 Door State: Closed
1038 Elevator Stop: 0
1039 Door Open Sig: 0
1040 Door Close Sig: 0
1041 Fire State: 0
1042 X20 register: 8
1043 Sound: 0
1044
1045 At time = 87
1046 Elevator Floor: 0
1047 Elevator State: Waiting
1048 IR Sensor State: Sensor Off
1049 Door State: Closed
1050 Elevator Stop: 0
1051 Door Open Sig: 0
1052 Door Close Sig: 0
1053 Fire State: 0
1054 X20 register: 8
1055 Sound: 0
1056
1057 At time = 88
1058 Elevator Floor: 0
1059 Elevator State: Waiting
1060 IR Sensor State: Sensor Off
1061 Door State: Closed
1062 Elevator Stop: 0
1063 Door Open Sig: 0
1064 Door Close Sig: 0
1065 Fire State: 0
1066 X20 register: 8
1067 Sound: 0
1068
1069 At time = 89
1070 Elevator Floor: 0
1071 Elevator State: Waiting
1072 IR Sensor State: Sensor Off
1073 Door State: Closed
1074 Elevator Stop: 0
1075 Door Open Sig: 0
1076 Door Close Sig: 0
1077 Fire State: 0
1078 X20 register: 8
1079 Sound: 0
1080
1081 At time = 90
1082 Elevator Floor: 0
1083 Elevator State: Waiting
1084 IR Sensor State: Sensor Off
1085 Door State: Closed
1086 Elevator Stop: 0
1087 Door Open Sig: 0
1088 Door Close Sig: 0
1089 Fire State: 0
1090 X20 register: 8
1091 Sound: 0
1092
1093 At time = 91
1094 Elevator Floor: 0
1095 Elevator State: Waiting
1096 IR Sensor State: Sensor Off
1097 Door State: Closed
1098 Elevator Stop: 0
1099 Door Open Sig: 0
1100 Door Close Sig: 0
1101 Fire State: 0
1102 X20 register: 8
1103 Sound: 0
1104

1105 At time = 92
1106 Elevator Floor: 0
1107 Elevator State: Waiting
1108 IR Sensor State: Sensor Off
1109 Door State: Closed
1110 Elevator Stop: 0
1111 Door Open Sig: 0
1112 Door Close Sig: 0
1113 Fire State: 0
1114 X20 register: 8
1115 Sound: 0
1116
1117 At time = 93
1118 Elevator Floor: 0
1119 Elevator State: Waiting
1120 IR Sensor State: Sensor Off
1121 Door State: Closed
1122 Elevator Stop: 0
1123 Door Open Sig: 0
1124 Door Close Sig: 0
1125 Fire State: 0
1126 X20 register: 8
1127 Sound: 0
1128
1129 At time = 94
1130 Elevator Floor: 0
1131 Elevator State: Waiting
1132 IR Sensor State: Sensor Off
1133 Door State: Closed
1134 Elevator Stop: 0
1135 Door Open Sig: 0
1136 Door Close Sig: 0
1137 Fire State: 0
1138 X20 register: 8
1139 Sound: 0
1140
1141 At time = 95
1142 Elevator Floor: 1
1143 Elevator State: Up
1144 IR Sensor State: Sensor Off
1145 Door State: Closed
1146 Elevator Stop: 0
1147 Door Open Sig: 0
1148 Door Close Sig: 0
1149 Fire State: 0
1150 X20 register: 64
1151 Sound: 0
1152
1153 At time = 96
1154 Elevator Floor: 1
1155 Elevator State: Up
1156 IR Sensor State: Sensor Off
1157 Door State: Closed
1158 Elevator Stop: 0
1159 Door Open Sig: 0
1160 Door Close Sig: 0
1161 Fire State: 0
1162 X20 register: 64
1163 Sound: 0
1164
1165 At time = 97
1166 Elevator Floor: 1
1167 Elevator State: Up
1168 IR Sensor State: Sensor Off
1169 Door State: Closed
1170 Elevator Stop: 0
1171 Door Open Sig: 0
1172 Door Close Sig: 0
1173 Fire State: 0

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1174 X20 register: 64
1175 Sound: 0
1176
1177 At time = 98
1178 Elevator Floor: 1
1179 Elevator State: Up
1180 IR Sensor State: Sensor Off
1181 Door State: Closed
1182 Elevator Stop: 0
1183 Door Open Sig: 0
1184 Door Close Sig: 0
1185 Fire State: 0
1186 X20 register: 64
1187 Sound: 0
1188
1189 At time = 99
1190 Elevator Floor: 1
1191 Elevator State: Up
1192 IR Sensor State: Sensor Off
1193 Door State: Closed
1194 Elevator Stop: 0
1195 Door Open Sig: 0
1196 Door Close Sig: 0
1197 Fire State: 0
1198 X20 register: 64
1199 Sound: 0
1200
1201 At time = 100
1202 Elevator Floor: 2
1203 Elevator State: Up
1204 IR Sensor State: Sensor Off
1205 Door State: Closed
1206 Elevator Stop: 1
1207 Door Open Sig: 0
1208 Door Close Sig: 0
1209 Fire State: 0
1210 X20 register: 32
1211 Sound: 0
1212
1213 At time = 101
1214 Elevator Floor: 2
1215 Elevator State: Up
1216 IR Sensor State: Sensor Off
1217 Door State: Closed
1218 Elevator Stop: 1
1219 Door Open Sig: 0
1220 Door Close Sig: 0
1221 Fire State: 0
1222 X20 register: 32
1223 Sound: 0
1224
1225 At time = 102
1226 Elevator Floor: 2
1227 Elevator State: Up
1228 IR Sensor State: Sensor Off
1229 Door State: Closed
1230 Elevator Stop: 1
1231 Door Open Sig: 0
1232 Door Close Sig: 0
1233 Fire State: 0
1234 X20 register: 32
1235 Sound: 0
1236
1237 At time = 103
1238 Elevator Floor: 2
1239 Elevator State: Up
1240 IR Sensor State: Sensor Off
1241 Door State: Closed
1242 Elevator Stop: 1
```

1243 Door Open Sig: 0
1244 Door Close Sig: 0
1245 Fire State: 0
1246 X20 register: 32
1247 Sound: 0
1248
1249 At time = 104
1250 Elevator Floor: 2
1251 Elevator State: Up
1252 IR Sensor State: Sensor Off
1253 Door State: Closed
1254 Elevator Stop: 1
1255 Door Open Sig: 0
1256 Door Close Sig: 0
1257 Fire State: 0
1258 X20 register: 32
1259 Sound: 0
1260
1261 At time = 105
1262 Elevator Floor: 2
1263 Elevator State: Waiting
1264 IR Sensor State: Sensor Off
1265 Door State: Latch and Sound
1266 Elevator Stop: 0
1267 Door Open Sig: 1
1268 Door Close Sig: 1
1269 Fire State: 0
1270 X20 register: 32
1271 Sound: 0
1272
1273 At time = 106
1274 Elevator Floor: 2
1275 Elevator State: Waiting
1276 IR Sensor State: Sensor Off
1277 Door State: Latch and Sound
1278 Elevator Stop: 0
1279 Door Open Sig: 1
1280 Door Close Sig: 1
1281 Fire State: 0
1282 X20 register: 32
1283 Sound: 0
1284
1285 At time = 107
1286 Elevator Floor: 2
1287 Elevator State: Waiting
1288 IR Sensor State: Sensor Off
1289 Door State: Open
1290 Elevator Stop: 0
1291 Door Open Sig: 1
1292 Door Close Sig: 1
1293 Fire State: 0
1294 X20 register: 32
1295 Sound: 1
1296
1297 At time = 108
1298 Elevator Floor: 2
1299 Elevator State: Waiting
1300 IR Sensor State: Person Walking
1301 Door State: Waiting for IR
1302 Elevator Stop: 0
1303 Door Open Sig: 1
1304 Door Close Sig: 1
1305 Fire State: 0
1306 X20 register: 32
1307 Sound: 0
1308
1309 At time = 109
1310 Elevator Floor: 2
1311 Elevator State: Waiting

1312 IR Sensor State: Person Walking
1313 Door State: Waiting for IR
1314 Elevator Stop: 0
1315 Door Open Sig: 1
1316 Door Close Sig: 1
1317 Fire State: 0
1318 X20 register: 32
1319 Sound: 0
1320
1321 At time = 110
1322 Elevator Floor: 2
1323 Elevator State: Waiting
1324 IR Sensor State: Sensor Off
1325 Door State: Door Closing
1326 Elevator Stop: 0
1327 Door Open Sig: 1
1328 Door Close Sig: 1
1329 Fire State: 0
1330 X20 register: 32
1331 Sound: 0
1332
1333 At time = 111
1334 Elevator Floor: 2
1335 Elevator State: Waiting
1336 IR Sensor State: Sensor Off
1337 Door State: Closed
1338 Elevator Stop: 0
1339 Door Open Sig: 0
1340 Door Close Sig: 0
1341 Fire State: 0
1342 X20 register: 32
1343 Sound: 0
1344
1345 At time = 112
1346 Elevator Floor: 2
1347 Elevator State: Waiting
1348 IR Sensor State: Sensor Off
1349 Door State: Closed
1350 Elevator Stop: 0
1351 Door Open Sig: 0
1352 Door Close Sig: 0
1353 Fire State: 0
1354 X20 register: 32
1355 Sound: 0
1356
1357 At time = 113
1358 Elevator Floor: 2
1359 Elevator State: Waiting
1360 IR Sensor State: Sensor Off
1361 Door State: Closed
1362 Elevator Stop: 0
1363 Door Open Sig: 0
1364 Door Close Sig: 0
1365 Fire State: 0
1366 X20 register: 32
1367 Sound: 0
1368
1369 At time = 114
1370 Elevator Floor: 2
1371 Elevator State: Waiting
1372 IR Sensor State: Sensor Off
1373 Door State: Closed
1374 Elevator Stop: 0
1375 Door Open Sig: 0
1376 Door Close Sig: 0
1377 Fire State: 0
1378 X20 register: 32
1379 Sound: 0
1380

1381 At time = 115
1382 Elevator Floor: 2
1383 Elevator State: Waiting
1384 IR Sensor State: Sensor Off
1385 Door State: Closed
1386 Elevator Stop: 0
1387 Door Open Sig: 0
1388 Door Close Sig: 0
1389 Fire State: 0
1390 X20 register: 32
1391 Sound: 0
1392
1393 At time = 116
1394 Elevator Floor: 2
1395 Elevator State: Waiting
1396 IR Sensor State: Sensor Off
1397 Door State: Closed
1398 Elevator Stop: 0
1399 Door Open Sig: 0
1400 Door Close Sig: 0
1401 Fire State: 0
1402 X20 register: 32
1403 Sound: 0
1404
1405 At time = 117
1406 Elevator Floor: 2
1407 Elevator State: Waiting
1408 IR Sensor State: Sensor Off
1409 Door State: Closed
1410 Elevator Stop: 0
1411 Door Open Sig: 0
1412 Door Close Sig: 0
1413 Fire State: 0
1414 X20 register: 32
1415 Sound: 0
1416
1417 At time = 118
1418 Elevator Floor: 2
1419 Elevator State: Waiting
1420 IR Sensor State: Sensor Off
1421 Door State: Closed
1422 Elevator Stop: 0
1423 Door Open Sig: 0
1424 Door Close Sig: 0
1425 Fire State: 0
1426 X20 register: 32
1427 Sound: 0
1428
1429 At time = 119
1430 Elevator Floor: 2
1431 Elevator State: Waiting
1432 IR Sensor State: Sensor Off
1433 Door State: Closed
1434 Elevator Stop: 0
1435 Door Open Sig: 0
1436 Door Close Sig: 0
1437 Fire State: 0
1438 X20 register: 32
1439 Sound: 0
1440
1441 At time = 120
1442 Elevator Floor: 2
1443 Elevator State: Waiting
1444 IR Sensor State: Sensor Off
1445 Door State: Closed
1446 Elevator Stop: 0
1447 Door Open Sig: 0
1448 Door Close Sig: 0
1449 Fire State: 0

1450 X20 register: 32
1451 Sound: 0
1452
1453 At time = 121
1454 Elevator Floor: 2
1455 Elevator State: Waiting
1456 IR Sensor State: Sensor Off
1457 Door State: Closed
1458 Elevator Stop: 0
1459 Door Open Sig: 0
1460 Door Close Sig: 0
1461 Fire State: 0
1462 X20 register: 32
1463 Sound: 0
1464
1465 At time = 122
1466 Elevator Floor: 2
1467 Elevator State: Waiting
1468 IR Sensor State: Sensor Off
1469 Door State: Closed
1470 Elevator Stop: 0
1471 Door Open Sig: 0
1472 Door Close Sig: 0
1473 Fire State: 0
1474 X20 register: 32
1475 Sound: 0
1476
1477 At time = 123
1478 Elevator Floor: 2
1479 Elevator State: Waiting
1480 IR Sensor State: Sensor Off
1481 Door State: Closed
1482 Elevator Stop: 0
1483 Door Open Sig: 0
1484 Door Close Sig: 0
1485 Fire State: 0
1486 X20 register: 32
1487 Sound: 0
1488
1489 At time = 124
1490 Elevator Floor: 2
1491 Elevator State: Waiting
1492 IR Sensor State: Sensor Off
1493 Door State: Closed
1494 Elevator Stop: 0
1495 Door Open Sig: 0
1496 Door Close Sig: 0
1497 Fire State: 0
1498 X20 register: 32
1499 Sound: 0
1500
1501 At time = 125
1502 Elevator Floor: 2
1503 Elevator State: Waiting
1504 IR Sensor State: Sensor Off
1505 Door State: Closed
1506 Elevator Stop: 0
1507 Door Open Sig: 0
1508 Door Close Sig: 0
1509 Fire State: 0
1510 X20 register: 32
1511 Sound: 0
1512
1513 At time = 126
1514 Elevator Floor: 2
1515 Elevator State: Waiting
1516 IR Sensor State: Sensor Off
1517 Door State: Closed
1518 Elevator Stop: 0

1519 Door Open Sig: 0
1520 Door Close Sig: 0
1521 Fire State: 0
1522 X20 register: 32
1523 Sound: 0
1524
1525 At time = 127
1526 Elevator Floor: 2
1527 Elevator State: Waiting
1528 IR Sensor State: Sensor Off
1529 Door State: Closed
1530 Elevator Stop: 0
1531 Door Open Sig: 0
1532 Door Close Sig: 0
1533 Fire State: 0
1534 X20 register: 32
1535 Sound: 0
1536
1537 At time = 128
1538 Elevator Floor: 2
1539 Elevator State: Waiting
1540 IR Sensor State: Sensor Off
1541 Door State: Closed
1542 Elevator Stop: 0
1543 Door Open Sig: 0
1544 Door Close Sig: 0
1545 Fire State: 0
1546 X20 register: 32
1547 Sound: 0
1548
1549 At time = 129
1550 Elevator Floor: 2
1551 Elevator State: Waiting
1552 IR Sensor State: Sensor Off
1553 Door State: Closed
1554 Elevator Stop: 0
1555 Door Open Sig: 0
1556 Door Close Sig: 0
1557 Fire State: 0
1558 X20 register: 32
1559 Sound: 0
1560
1561 At time = 130
1562 Elevator Floor: 2
1563 Elevator State: Waiting
1564 IR Sensor State: Sensor Off
1565 Door State: Closed
1566 Elevator Stop: 0
1567 Door Open Sig: 0
1568 Door Close Sig: 0
1569 Fire State: 0
1570 X20 register: 32
1571 Sound: 0
1572
1573 At time = 131
1574 Elevator Floor: 2
1575 Elevator State: Waiting
1576 IR Sensor State: Sensor Off
1577 Door State: Closed
1578 Elevator Stop: 0
1579 Door Open Sig: 0
1580 Door Close Sig: 0
1581 Fire State: 0
1582 X20 register: 32
1583 Sound: 0
1584
1585 At time = 132
1586 Elevator Floor: 2
1587 Elevator State: Waiting

1588 IR Sensor State: Sensor Off
1589 Door State: Closed
1590 Elevator Stop: 0
1591 Door Open Sig: 0
1592 Door Close Sig: 0
1593 Fire State: 0
1594 X20 register: 32
1595 Sound: 0
1596
1597 At time = 133
1598 Elevator Floor: 2
1599 Elevator State: Waiting
1600 IR Sensor State: Sensor Off
1601 Door State: Closed
1602 Elevator Stop: 0
1603 Door Open Sig: 0
1604 Door Close Sig: 0
1605 Fire State: 0
1606 X20 register: 32
1607 Sound: 0
1608
1609 At time = 134
1610 Elevator Floor: 2
1611 Elevator State: Waiting
1612 IR Sensor State: Sensor Off
1613 Door State: Closed
1614 Elevator Stop: 0
1615 Door Open Sig: 0
1616 Door Close Sig: 0
1617 Fire State: 0
1618 X20 register: 32
1619 Sound: 0
1620
1621 At time = 135
1622 Elevator Floor: 2
1623 Elevator State: Waiting
1624 IR Sensor State: Sensor Off
1625 Door State: Closed
1626 Elevator Stop: 0
1627 Door Open Sig: 0
1628 Door Close Sig: 0
1629 Fire State: 0
1630 X20 register: 32
1631 Sound: 0
1632
1633 At time = 136
1634 Elevator Floor: 2
1635 Elevator State: Waiting
1636 IR Sensor State: Sensor Off
1637 Door State: Closed
1638 Elevator Stop: 0
1639 Door Open Sig: 0
1640 Door Close Sig: 0
1641 Fire State: 0
1642 X20 register: 32
1643 Sound: 0
1644
1645 At time = 137
1646 Elevator Floor: 2
1647 Elevator State: Waiting
1648 IR Sensor State: Sensor Off
1649 Door State: Closed
1650 Elevator Stop: 0
1651 Door Open Sig: 0
1652 Door Close Sig: 0
1653 Fire State: 0
1654 X20 register: 32
1655 Sound: 0
1656

1657 At time = 138
1658 Elevator Floor: 2
1659 Elevator State: Waiting
1660 IR Sensor State: Sensor Off
1661 Door State: Closed
1662 Elevator Stop: 0
1663 Door Open Sig: 0
1664 Door Close Sig: 0
1665 Fire State: 0
1666 X20 register: 32
1667 Sound: 0
1668
1669 At time = 139
1670 Elevator Floor: 2
1671 Elevator State: Waiting
1672 IR Sensor State: Sensor Off
1673 Door State: Closed
1674 Elevator Stop: 0
1675 Door Open Sig: 0
1676 Door Close Sig: 0
1677 Fire State: 0
1678 X20 register: 32
1679 Sound: 0
1680
1681 At time = 140
1682 Elevator Floor: 2
1683 Elevator State: Waiting
1684 IR Sensor State: Sensor Off
1685 Door State: Latch and Sound
1686 Elevator Stop: 0
1687 Door Open Sig: 1
1688 Door Close Sig: 1
1689 Fire State: 0
1690 X20 register: 32
1691 Sound: 0
1692
1693 At time = 141
1694 Elevator Floor: 2
1695 Elevator State: Waiting
1696 IR Sensor State: Sensor Off
1697 Door State: Latch and Sound
1698 Elevator Stop: 0
1699 Door Open Sig: 1
1700 Door Close Sig: 1
1701 Fire State: 0
1702 X20 register: 32
1703 Sound: 0
1704
1705 At time = 142
1706 Elevator Floor: 2
1707 Elevator State: Waiting
1708 IR Sensor State: Sensor Off
1709 Door State: Open
1710 Elevator Stop: 0
1711 Door Open Sig: 1
1712 Door Close Sig: 1
1713 Fire State: 0
1714 X20 register: 32
1715 Sound: 1
1716
1717 At time = 143
1718 Elevator Floor: 2
1719 Elevator State: Waiting
1720 IR Sensor State: Person Walking
1721 Door State: Waiting for IR
1722 Elevator Stop: 0
1723 Door Open Sig: 1
1724 Door Close Sig: 1
1725 Fire State: 0

1726 X20 register: 32
1727 Sound: 0
1728
1729 At time = 144
1730 Elevator Floor: 2
1731 Elevator State: Waiting
1732 IR Sensor State: Person Walking
1733 Door State: Waiting for IR
1734 Elevator Stop: 0
1735 Door Open Sig: 1
1736 Door Close Sig: 1
1737 Fire State: 0
1738 X20 register: 32
1739 Sound: 0
1740
1741 At time = 145
1742 Elevator Floor: 2
1743 Elevator State: Waiting
1744 IR Sensor State: Sensor Off
1745 Door State: Door Closing
1746 Elevator Stop: 0
1747 Door Open Sig: 1
1748 Door Close Sig: 1
1749 Fire State: 0
1750 X20 register: 32
1751 Sound: 0
1752
1753 At time = 146
1754 Elevator Floor: 2
1755 Elevator State: Waiting
1756 IR Sensor State: Sensor Off
1757 Door State: Closed
1758 Elevator Stop: 0
1759 Door Open Sig: 0
1760 Door Close Sig: 0
1761 Fire State: 0
1762 X20 register: 32
1763 Sound: 0
1764
1765 At time = 147
1766 Elevator Floor: 2
1767 Elevator State: Waiting
1768 IR Sensor State: Sensor Off
1769 Door State: Closed
1770 Elevator Stop: 0
1771 Door Open Sig: 0
1772 Door Close Sig: 0
1773 Fire State: 0
1774 X20 register: 32
1775 Sound: 0
1776
1777 At time = 148
1778 Elevator Floor: 2
1779 Elevator State: Waiting
1780 IR Sensor State: Sensor Off
1781 Door State: Closed
1782 Elevator Stop: 0
1783 Door Open Sig: 0
1784 Door Close Sig: 0
1785 Fire State: 0
1786 X20 register: 32
1787 Sound: 0
1788
1789 At time = 149
1790 Elevator Floor: 2
1791 Elevator State: Waiting
1792 IR Sensor State: Sensor Off
1793 Door State: Closed
1794 Elevator Stop: 0

1795 Door Open Sig: 0
1796 Door Close Sig: 0
1797 Fire State: 0
1798 X20 register: 32
1799 Sound: 0
1800
1801 At time = 150
1802 Elevator Floor: 2
1803 Elevator State: Waiting
1804 IR Sensor State: Sensor Off
1805 Door State: Closed
1806 Elevator Stop: 0
1807 Door Open Sig: 0
1808 Door Close Sig: 0
1809 Fire State: 0
1810 X20 register: 32
1811 Sound: 0
1812
1813 At time = 151
1814 Elevator Floor: 2
1815 Elevator State: Waiting
1816 IR Sensor State: Sensor Off
1817 Door State: Closed
1818 Elevator Stop: 0
1819 Door Open Sig: 0
1820 Door Close Sig: 0
1821 Fire State: 0
1822 X20 register: 32
1823 Sound: 0
1824
1825 At time = 152
1826 Elevator Floor: 2
1827 Elevator State: Waiting
1828 IR Sensor State: Sensor Off
1829 Door State: Closed
1830 Elevator Stop: 0
1831 Door Open Sig: 0
1832 Door Close Sig: 0
1833 Fire State: 0
1834 X20 register: 32
1835 Sound: 0
1836
1837 At time = 153
1838 Elevator Floor: 2
1839 Elevator State: Waiting
1840 IR Sensor State: Sensor Off
1841 Door State: Closed
1842 Elevator Stop: 0
1843 Door Open Sig: 0
1844 Door Close Sig: 0
1845 Fire State: 0
1846 X20 register: 32
1847 Sound: 0
1848
1849 At time = 154
1850 Elevator Floor: 2
1851 Elevator State: Waiting
1852 IR Sensor State: Sensor Off
1853 Door State: Closed
1854 Elevator Stop: 0
1855 Door Open Sig: 0
1856 Door Close Sig: 0
1857 Fire State: 0
1858 X20 register: 32
1859 Sound: 0
1860
1861 At time = 155
1862 Elevator Floor: 2
1863 Elevator State: Waiting

1864 IR Sensor State: Sensor Off
1865 Door State: Closed
1866 Elevator Stop: 0
1867 Door Open Sig: 0
1868 Door Close Sig: 0
1869 Fire State: 0
1870 X20 register: 32
1871 Sound: 0
1872
1873 At time = 156
1874 Elevator Floor: 2
1875 Elevator State: Waiting
1876 IR Sensor State: Sensor Off
1877 Door State: Closed
1878 Elevator Stop: 0
1879 Door Open Sig: 0
1880 Door Close Sig: 0
1881 Fire State: 0
1882 X20 register: 32
1883 Sound: 0
1884
1885 At time = 157
1886 Elevator Floor: 2
1887 Elevator State: Waiting
1888 IR Sensor State: Sensor Off
1889 Door State: Closed
1890 Elevator Stop: 0
1891 Door Open Sig: 0
1892 Door Close Sig: 0
1893 Fire State: 0
1894 X20 register: 32
1895 Sound: 0
1896
1897 At time = 158
1898 Elevator Floor: 2
1899 Elevator State: Waiting
1900 IR Sensor State: Sensor Off
1901 Door State: Closed
1902 Elevator Stop: 0
1903 Door Open Sig: 0
1904 Door Close Sig: 0
1905 Fire State: 0
1906 X20 register: 32
1907 Sound: 0
1908
1909 At time = 159
1910 Elevator Floor: 2
1911 Elevator State: Waiting
1912 IR Sensor State: Sensor Off
1913 Door State: Closed
1914 Elevator Stop: 0
1915 Door Open Sig: 0
1916 Door Close Sig: 0
1917 Fire State: 0
1918 X20 register: 32
1919 Sound: 0
1920
1921 At time = 160
1922 Elevator Floor: 2
1923 Elevator State: Waiting
1924 IR Sensor State: Sensor Off
1925 Door State: Closed
1926 Elevator Stop: 0
1927 Door Open Sig: 0
1928 Door Close Sig: 0
1929 Fire State: 0
1930 X20 register: 32
1931 Sound: 0
1932

1933 At time = 161
1934 Elevator Floor: 2
1935 Elevator State: Waiting
1936 IR Sensor State: Sensor Off
1937 Door State: Closed
1938 Elevator Stop: 0
1939 Door Open Sig: 0
1940 Door Close Sig: 0
1941 Fire State: 0
1942 X20 register: 32
1943 Sound: 0
1944
1945 At time = 162
1946 Elevator Floor: 2
1947 Elevator State: Waiting
1948 IR Sensor State: Sensor Off
1949 Door State: Closed
1950 Elevator Stop: 0
1951 Door Open Sig: 0
1952 Door Close Sig: 0
1953 Fire State: 0
1954 X20 register: 32
1955 Sound: 0
1956
1957 At time = 163
1958 Elevator Floor: 2
1959 Elevator State: Waiting
1960 IR Sensor State: Sensor Off
1961 Door State: Closed
1962 Elevator Stop: 0
1963 Door Open Sig: 0
1964 Door Close Sig: 0
1965 Fire State: 0
1966 X20 register: 32
1967 Sound: 0
1968
1969 At time = 164
1970 Elevator Floor: 2
1971 Elevator State: Waiting
1972 IR Sensor State: Sensor Off
1973 Door State: Closed
1974 Elevator Stop: 0
1975 Door Open Sig: 0
1976 Door Close Sig: 0
1977 Fire State: 0
1978 X20 register: 32
1979 Sound: 0
1980
1981 At time = 165
1982 Elevator Floor: 2
1983 Elevator State: Waiting
1984 IR Sensor State: Sensor Off
1985 Door State: Closed
1986 Elevator Stop: 0
1987 Door Open Sig: 0
1988 Door Close Sig: 0
1989 Fire State: 0
1990 X20 register: 32
1991 Sound: 0
1992
1993 At time = 166
1994 Elevator Floor: 2
1995 Elevator State: Waiting
1996 IR Sensor State: Sensor Off
1997 Door State: Closed
1998 Elevator Stop: 0
1999 Door Open Sig: 0
2000 Door Close Sig: 0
2001 Fire State: 0

2002 X20 register: 32
2003 Sound: 0
2004
2005 At time = 167
2006 Elevator Floor: 2
2007 Elevator State: Waiting
2008 IR Sensor State: Sensor Off
2009 Door State: Closed
2010 Elevator Stop: 0
2011 Door Open Sig: 0
2012 Door Close Sig: 0
2013 Fire State: 0
2014 X20 register: 32
2015 Sound: 0
2016
2017 At time = 168
2018 Elevator Floor: 2
2019 Elevator State: Waiting
2020 IR Sensor State: Sensor Off
2021 Door State: Closed
2022 Elevator Stop: 0
2023 Door Open Sig: 0
2024 Door Close Sig: 0
2025 Fire State: 0
2026 X20 register: 32
2027 Sound: 0
2028
2029 At time = 169
2030 Elevator Floor: 2
2031 Elevator State: Waiting
2032 IR Sensor State: Sensor Off
2033 Door State: Closed
2034 Elevator Stop: 0
2035 Door Open Sig: 0
2036 Door Close Sig: 0
2037 Fire State: 0
2038 X20 register: 32
2039 Sound: 0
2040
2041 At time = 170
2042 Elevator Floor: 2
2043 Elevator State: Waiting
2044 IR Sensor State: Sensor Off
2045 Door State: Closed
2046 Elevator Stop: 0
2047 Door Open Sig: 0
2048 Door Close Sig: 0
2049 Fire State: 0
2050 X20 register: 32
2051 Sound: 0
2052
2053 At time = 171
2054 Elevator Floor: 2
2055 Elevator State: Waiting
2056 IR Sensor State: Sensor Off
2057 Door State: Closed
2058 Elevator Stop: 0
2059 Door Open Sig: 0
2060 Door Close Sig: 0
2061 Fire State: 0
2062 X20 register: 32
2063 Sound: 0
2064
2065 At time = 172
2066 Elevator Floor: 2
2067 Elevator State: Waiting
2068 IR Sensor State: Sensor Off
2069 Door State: Closed
2070 Elevator Stop: 0

2071 Door Open Sig: 0
2072 Door Close Sig: 0
2073 Fire State: 0
2074 X20 register: 32
2075 Sound: 0
2076
2077 At time = 173
2078 Elevator Floor: 2
2079 Elevator State: Waiting
2080 IR Sensor State: Sensor Off
2081 Door State: Closed
2082 Elevator Stop: 0
2083 Door Open Sig: 0
2084 Door Close Sig: 0
2085 Fire State: 0
2086 X20 register: 32
2087 Sound: 0
2088
2089 At time = 174
2090 Elevator Floor: 2
2091 Elevator State: Waiting
2092 IR Sensor State: Sensor Off
2093 Door State: Closed
2094 Elevator Stop: 0
2095 Door Open Sig: 0
2096 Door Close Sig: 0
2097 Fire State: 0
2098 X20 register: 32
2099 Sound: 0

```

1
2 #include "main.hpp"
3
4 Clock::Clock() {
5     reset(0, 0);
6 }
7
8 void Clock::reset() {
9     mStart = clk::now();
10}
11
12 void Clock::reset(bool hour, unsigned val) {
13     if (hour) mHour = val;
14     else mMinute = val;
15 }
16
17 // https://stackoverflow.com/questions/15957805/
18 unsigned Clock::getHour() {
19     auto elapsed = clk::now() - mStart;
20     auto hour = std::chrono::duration_cast<std::chrono::hours>(elapsed).count();
21     auto min = std::chrono::duration_cast<std::chrono::minutes>(elapsed).count();
22
23     if ((min + mMinute) >= 60)
24         ++hour;
25
26     // std::cout << ".....TIME: " << (hour + mHour) <<
27     // std::endl;
28
29     return hour + mHour;
30 }
31
32 /// depreciated, using [[deprecated]] is giving me warning cause im
33 /// to lazy to turn on c++17
34 unsigned Clock::getMin() {
35     time_t tt = clk::to_time_t(mStart);
36     tm local_tm = *localtime(&tt);
37     return local_tm.tm_min;
38 }
```

```

1
2 #include "main.hpp"
3
4 #include <thread>
5
6 Controller::Controller() {
7     mThread = std::thread{&start, this};
8 }
9
10 Controller::~Controller() {
11     mThread.join();
12 }
13
14
15 void Controller::start() {
16     while (!gStart)
17         ;
18
19     bool fire = false;
20
21     while (!gStop) {
22         if (!FireKey) fire = false;
23
24         auto floor = gMem.getFloor(); // get the next floor to go to
25
26         bool memEmpty = gMem.isEmpty();
27
28         // go in that direction
29         if (floor > gLift.mFloor)
30             gLift.mState = ES_UP;
31         if (floor < gLift.mFloor)
32             gLift.mState = ES_DOWN;
33
34         // Wait for the elevator to get to the floor unless FIRE!!
35         while (gLift.mFloor != floor) {
36             if (FireKey and !fire) {
37                 break;
38             }
39
40             if (!FireKey) fire = false;
41         }
42
43         if (FireKey and !fire) {
44             fire = true;
45             continue;
46         }
47
48         if (!FireKey) fire = false;
49
50         // set the state to wait
51         gLift.mStop = true;
52
53         // wait for the door to open
54         while (gLift.mDoor.mState == DOOR_CLOSED)
55             ;
56
57         gLift.mStop = false;
58         gLift.mState = ES_WAIT;
59
60         // because we aren't in the fire state we will close/open
61         // the door at instant
62         if (!FireKey) {
63             gLift.mDoor.mConDoorOpen = true;
64             gLift.mDoor.mConDoorClose = true;
65         }
66
67         // Wit for the door to close
68         while (gLift.mDoor.mState != DOOR_CLOSED)
69             ;

```

```
70
71     gLift.mDoor.mConDoorOpen = false;
72     gLift.mDoor.mConDoorClose = false;
73
74     // wait for the person to hit a button if the user doesnt
75     // press a button for 30 secs, we will assume there is no
76     // person in the elevator and we will reset to the default
77     // floor
78     if (memEmpty) {
79         auto end = clk::now() + 30s; // FIX THIS IT SHOULD BE 30 SECONDS
80         while (clk::now() < end) {
81             // std::cout << "....." << std::endl;
82             if (!gMem.isEmpty()) // user pushed a floor button
83                 break;
84         }
85     }
86     // the loop will continue for 30 seconds, if the user pushes abort
87     // button in that time then we break and go to that floor
88     // if the loops iterates for 30 seconds the next ask from memory
89     // will get the default floor, if the loop never iterates then
90     // the queue is not empty so we want to go to the next floor
91 }
92
93     std::cout << "Controller exiting" << std::endl;
94 }
```

```
1 #include "main.hpp"
2
3
4 void Door::start() {
5     // We are currently in DOOR_CLOSED state, we will change state and
6     // Latch and send sound output
7     mState = DOOR_LAT_SND;
8     std::this_thread::sleep_for(2s); // wait for 2s to latch
9     Sound = true;
10
11    // Door is latched now we wait for the controller to tell us to
12    // open the gate
13    while (!mConDoorOpen) ;// { std::this_thread::yield(); }
14
15    // Open Door (Turn off sound too)
16    mState = DOOR_OPEN;
17    std::this_thread::sleep_for(1s); // Door is opening
18
19    // Door is open, now let people in and out
20    mState = DOOR_IR; // Honestly this should be called Door Wait
21    // but too lazy to change
22    Sound = false;
23    if (!FireKey) {
24        mIRSen.start(); // This is a blocking function
25        // this function will start the IRSensor and wait
26        // for its finish to close the door
27    }
28
29    // Wait for the controller to send close door signal
30    while (!mConDoorClose) ;// { std::this_thread::yield(); }
31    mState = DOOR_CLOSING;
32    std::this_thread::sleep_for(1s); // Door is closing
33
34    mState = DOOR_CLOSED; // Door is closed
35
36 }
```

```

1
2 #include "main.hpp"
3
4 Elevator::Elevator()
5 : mState{ ES_WAIT }, mStop{ false } {
6     mThread = std::thread{&start, this};
7 }
8
9 Elevator::~Elevator() {
10     mThread.join();
11 }
12
13 void Elevator::start() {
14     while (!gStart) // Wait for all go signal
15         ;
16
17     while (!gStop) {
18         if (mStop) { // Controller wants us to stop at this floor
19             mDoor.start();
20         }
21
22         if (mState == ES_UP) {
23             inc(mFloor); // to lazy to change it back to ++--
24
25             std::this_thread::sleep_for(5s);
26             continue;
27         }
28
29         if (mState == ES_DOWN) {
30             dec(mFloor);
31
32             std::this_thread::sleep_for(5s);
33             continue;
34         }
35     }
36
37     std::cout << "Elevator exiting" << std::endl;
38 }
39
40 void Elevator::reset(FloorNum flr) {
41     mState = ES_WAIT;
42     mFloor = flr;
43 }
```

```

1
2 #include <thread>
3 #include "main.hpp"
4
5 FloorLights::FloorLights()
6 : X20{ 0 } {
7     mThread = std::thread{&start, this}; // invokes the callable
8 }
9
10 FloorLights::~FloorLights() {
11     mThread.join();
12 }
13
14 void FloorLights::start() {
15     while (!gStop) { // So while the global variable hasnt told us to stop
16         unsigned char newValue = 0;
17
18         /// get the state from the elevator
19         ElevState eleState = gLift.mState;
20
21         /// get current floor from the elevator
22         FloorNum eleFloor = gLift.mFloor;
23
24         switch (eleState) {
25             case ES_WAIT: continue; // if we are waiting then dont shine any lights
26
27             case ES_UP: {
28                 int shift = static_cast<int>(eleFloor);
29                 newValue |= (0x80 >> shift);
30             } break;
31
32             case ES_DOWN: {
33                 int shift = static_cast<int>(eleFloor);
34                 newValue |= (0x01 << (3 - shift));
35             } break;
36
37             default: break;
38         }
39
40         X20 = newValue;
41
42         std::this_thread::sleep_for(5s); // SOOO
43         // My testing computer has 2 threads -- hyperthreaded
44         // thos thread is the least significant so Im adding this
45         // in a higher core machine, remove this
46     }
47 }
48
49 unsigned char FloorLights::getLights() {
50     return X20;
51 }
```

```

1
2 #include "ir_sensor.hpp"
3 #include "main.hpp"
4
5 void IR_Sensor::start() {
6     /// Start the IR Sensor loop
7     while (true) {
8         mState = IR_BUSY;
9         if (IRon) continue;
10
11         /// THis first section just loops endlessly until the IRon sensor
12         /// gives us a 'no one is here signal'
13
14         bool startOver = false;
15         auto end = clk::now() + 2s;
16         while (clk::now() < end) {
17             if (IRon) {
18                 startOver = true;
19                 break;
20             }
21
22             /// This here will loop for 2 seconds or until someone walks through the door
23             /// if we get a person through the door in that 2sec then we want to mark
24             startOver
25             /// to true and start this process over again
26         }
27
28         if (startOver) continue; // This repeats the loop if a person
29         // walks through if not then IR should be done and we send
30
31         /// The return of this function will be the signal that tells
32         /// the Door FSM that IR Sesor is dont
33         mState = IR_OFF;
34         return; // We dont need to start over, the IR sensor is done
35     }
}

```

```

1
2
3 #include <iostream>
4 #include <atomic>
5 #include <thread>
6 #include <vector>
7 #include <fstream>
8 #include <sstream>
9 // #include <string_view>
10
11 #include "main.hpp"
12
13 /// Things to work on if we get time
14 /**
15     - Memory barriers (for atomics and synchronization)
16     - Graphics (doubt we will have time) (procrastinators unite tmr)
17 */
18
19 std::atomic_bool FireKey; // This global variable starts
20 // and stops the Fire state
21 std::atomic_bool IRon; // This global variable turns on
22 // when the a person is walking into an elevator
23 std::atomic_bool Sound; // Output sound after latching
24
25 std::atomic_bool gStop; // start the simulation
26 std::atomic_bool gStart{ false };
27
28 Controller gControl; // the controller
29 Elevator gLift; // Elevator object
30 Memory gMem;
31 Clock gClk;
32 FloorLights gFL;
33
34 void output();
35 void printer();
36
37 struct Token;
38 // std::vector<Token> parser(std::string_view file); // not using c++ 17
39 std::vector<Token> parser(std::string file);
40 void runner(std::vector<Token>& dat);
41
42 int main(int argc, char* argv[]) {
43     if (argc <= 1) exit (-1);
44
45     using std::clog;
46     using std::endl;
47     using std::cout;
48
49     FireKey = false;
50     IRon = false;
51     Sound = false;
52     gStop = false;
53
54     std::thread ptr{ printer };
55
56     // The main reason I decided to do this in two steps is because disk read
57     // is very slow compared to ram reads. I want to first load the entire
58     // file into memory and then run that rather than reading directly from
59     // the file and executing live.
60     auto pdat = parser(argv[1]);
61     runner(pdat);
62
63     while (!gStop)
64         ;
65
66 }
67
68 void printer() {
69

```

```

70     using std::cout;
71     using std::endl;
72
73     while (!gStart)
74         ;
75
76     for (int i = 0; true; ++i) {
77         cout << "At time = " << i << endl;
78         output();
79         std::this_thread::sleep_for(1s);
80     }
81 }
82
83
84 void output() {
85     using std::cout;
86     using std::endl;
87
88     cout << "Elevator Floor: " << std::to_string(static_cast<int>(gLift.mFloor)) <<
89     endl;
90     cout << "Elevator State: " << pretty(gLift.mState) << endl;
91     cout << "IR Sensor State: " << pretty(gLift.mDoor.mIRSen.mState) << endl;
92     cout << "Door State: " << pretty(gLift.mDoor.mState) << endl;
93     cout << "Elevator Stop: " << gLift.mStop << endl;
94     cout << "Door Open Sig: " << gLift.mDoor.mConDoorOpen << endl;
95     cout << "Door Close Sig: " << gLift.mDoor.mConDoorClose << endl;
96     cout << "Fire State: " << FireKey << endl;
97     cout << "X20 register: " << std::to_string(gFL.getLights()) << endl;
98     cout << "Sound: " << Sound << endl;
99
100    cout << endl;
101
102 }
103
104 // Ya I know I know, not proper, but I'm procrastinating, I'm
105 // just going to shove this part here
106 enum class TKN {
107     HOUR,
108     MIN,
109     ERST,
110     MEM,
111     START,
112     WAIT,
113     WFLR,
114     WDOOR,
115     IRON,
116     FIRE,
117     DOORO,
118     DOORC,
119 };
120
121 struct Token {
122     TKN mToken;
123     int mData;
124 };
125
126 std::vector<Token> parser(std::string file) {
127     // The instruction file is orgaized by one
128     // opcode and a data attached to it (one int)
129     std::vector<Token> ret;
130
131     std::ifstream readFile(file.c_str());
132     std::string line; // temp store for each command
133
134     while(std::getline(readFile, line)) {
135         std::stringstream iss(line);
136
137         // split command and data

```

```

138     std::string tknstr;
139     std::string dat;
140     std::getline(iss, tknstr, ' ');
141     std::getline(iss, dat);
142
143     Token t;
144     t.mData = stoi(dat); // convert string number
145
146     // convert token string to token for jump table during run
147     if (tknstr == "hour") {
148         t.mToken = TKN::HOUR;
149     } else if (tknstr == "min") {
150         t.mToken = TKN::MIN;
151     } else if (tknstr == "erst") {
152         t.mToken = TKN::ERST;
153     } else if (tknstr == "mem") {
154         t.mToken = TKN::MEM;
155     } else if (tknstr == "start") {
156         t.mToken = TKN::START;
157     } else if (tknstr == "wait") {
158         t.mToken = TKN::WAIT;
159     } else if (tknstr == "waitff") {
160         t.mToken = TKN::WFLR;
161     } else if (tknstr == "waitfd") {
162         t.mToken = TKN::WDOOR;
163     } else if (tknstr == "iron") {
164         t.mToken = TKN::IRON;
165     } else if (tknstr == "fire") {
166         t.mToken = TKN::FIRE;
167     } else if (tknstr == "dooro") {
168         t.mToken = TKN::DOORO;
169     } else if (tknstr == "doorc") {
170         t.mToken = TKN::DOORC;
171     }
172     ret.push_back(t);
173 }
174
175     return ret;
176 }
177
178
179 void runner(std::vector<Token>& dat) {
180     // take the parsed tokens and run it
181     for (auto& t : dat) {
182         switch (t.mToken) { // this is internally impl by a jump table
183
184             // For each token and data pair, do what its supposed to
185             case TKN::HOUR:
186                 gClk.reset(true, t.mData);
187                 break;
188
189             case TKN::MIN:
190                 gClk.reset(false, t.mData);
191                 break;
192
193             case TKN::ERST:
194                 gLift.reset(static_cast<FloorNum>(t.mData));
195                 break;
196
197             case TKN::MEM:
198                 gMem.setFloor(static_cast<FloorNum>(t.mData));
199                 break;
200
201             case TKN::START:
202                 gClk.reset();
203                 gStart = true;
204                 break;
205
206             case TKN::WAIT:

```

```
207         std::this_thread::sleep_for(std::chrono::seconds{ t.mData });
208     break;
209
210     case TKN::WFLR:
211         while (gLift.mFloor != static_cast<FloorNum>(t.mData));
212     break;
213
214     case TKN::WDOOR:
215         while (gLift.mDoor.mState != static_cast<DoorState>(t.mData));
216     break;
217
218     case TKN::IRON:
219         IRon = static_cast<bool>(t.mData);
220     break;
221
222     case TKN::FIRE:
223         FireKey = static_cast<bool>(t.mData);
224     break;
225
226     case TKN::DOORO:
227         gLift.mDoor.mConDoorOpen = true;
228     break;
229
230     case TKN::DOORC:
231         gLift.mDoor.mConDoorClose = true;
232     break;
233 }
234 }
235 }
```

```

1
2 #include <mutex>
3
4 #include "main.hpp"
5
6 // deprecated cant use [[deprecated]]
7 void Memory::clearMem() {
8     std::lock_guard<std::mutex> { mGuard };
9
10    // https://stackoverflow.com/questions/709146
11    decltype(mFloors) empty; // swap with an empty one
12    std::swap(mFloors, empty);
13}
14
15 bool Memory::isEmpty() {
16    return mFloors.empty();
17}
18
19 void Memory::setFloor(FloorNum flr) {
20    if (FireKey) {
21        mFireFloor = flr;
22        return;
23    }
24
25    std::lock_guard<std::mutex> { mGuard }; // Protection
26    mFloors.push(flr);
27}
28
29 FloorNum Memory::getFloor() {
30    if (FireKey) // no need for protection
31        return mFireFloor;
32
33    std::lock_guard<std::mutex> { mGuard };
34
35    if (mFloors.empty())
36        return getDefaultFloor();
37
38    auto flr = mFloors.front();
39    mFloors.pop();
40    return flr;
41}
42
43
44 FloorNum Memory::getDefaultFloor() {
45    // return F1; /// FOR TESTING PURPOSES ONLY
46    auto hour = gClk.getHour();
47
48    // std::cout << "....." << std::to_string(hour)
49    // << std::endl;
50
51    if (hour > 8 and hour < 14)
52        return F1;
53
54    if (hour >= 14 and hour < 18)
55        return F2;
56
57    return F1;
}

```

```
1 #pragma once
2
3 #include <chrono>
4
5 #include "main.hpp"
6
7 /// THE only thing accessing the clock is the memory
8 // no need for multi-thread protection
9
10 class Clock {
11     typename clk::time_point mStart; // this stores when the simulation
12     // started, it is absolute
13
14     unsigned mHour; // this stores the start time, it wont change
15     // unless the simulation changes.
16     unsigned mMinute;
17
18     // For example if the simulation states that it started at 14:59 then the
19     // mAbsTime will store the start of the system clock, and mHour will store
20     // 14 and mMinute stores 59. To figure out the current time
21
22 public:
23     Clock();
24
25     void reset();
26     void reset(bool hour, unsigned val);
27
28     unsigned getHour();
29     unsigned getMin();
30 };
```

```
1 #pragma once
2
3 #include <thread>
4
5 enum class ControllerState {
6     CTR_ASK = 0b00,
7     CTR_UP,
8     CTR_DOWN,
9     CTR_WAIT_LATCH,
10    CTR_WAIT_REPLY,
11    CTR_WAIT_DCLOSE,
12
13    CTR_DC1 = 0b110,
14    CTR_DC2
15 };
16
17 struct Controller {
18     std::thread mThread;
19     ControllerState mState;
20
21     Controller();
22     ~Controller();
23
24     void start();
25
26 };
```

```

1 #pragma once
2
3 #include <atomic>
4
5 #include "ir_sensor.hpp"
6
7 enum DoorState {
8     DOOR_CLOSED = 0b000,
9     DOOR_LAT_SND,
10    DOOR_OPEN,
11    DOOR_IR,
12    DOOR_CLOSING,
13    DOOR_DC1 = 0b101, // not needed, just so we can remember
14    DOOR_DC2,
15    DOOR_DC3
16};
17
18 inline std::string pretty(DoorState s) {
19     switch (s) {
20         case DOOR_CLOSED:
21             return "Closed";
22         case DOOR_LAT_SND:
23             return "Latch and Sound";
24         case DOOR_OPEN:
25             return "Open";
26         case DOOR_IR:
27             return "Waiting for IR";
28         case DOOR_CLOSING:
29             return "Door Closing";
30
31         default:
32             return "Broken";
33     }
34 }
35
36 struct Door {
37     DoorState mState;
38     IR_Sensor mIRSen;
39
40     std::atomic_bool mConDoorOpen;
41     std::atomic_bool mConDoorClose;
42
43     void start();
44 };

```

```

1 #pragma once
2
3 #include <iostream>
4 #include <chrono>
5
6 #include "door.hpp"
7
8 /// CHECKED FOR THREAD SAFETY //
9
10 enum FloorNum {
11     FG = 0,
12     F1,
13     F2,
14     F3
15 };
16
17 class invalid_floor_reached : public std::exception {
18 public:
19     std::string what() {
20         return "Umm, ya you killed people. Invalid floor reached";
21     }
22 };
23
24 /// I know I know What am I doing here, Do I even know C++.
25 /// Ill fix it later
26 inline void inc(std::atomic<FloorNum>& a) {
27     switch (a) {
28         case FG: a = F1; return;
29         case F1: a = F2; return;
30         case F2: a = F3; return;
31         default: throw invalid_floor_reached();
32     }
33 }
34
35 inline void dec(std::atomic<FloorNum>& a) {
36     switch (a) {
37         case F1: a = FG; return;
38         case F2: a = F1; return;
39         case F3: a = F2; return;
40         default: throw invalid_floor_reached();
41     }
42 }
43
44 // inline void operator++ (FloorNum& a) {
45 //     switch (a) {
46 //         case FG: a = F1; return;
47 //         case F1: a = F2; return;
48 //         case F2: a = F3; return;
49 //         default: throw invalid_floor_reached();
50 //     }
51 // }
52
53 // inline void operator++ (FloorNum& a, int) {
54 //     switch (a) {
55 //         case FG: a = F1; return;
56 //         case F1: a = F2; return;
57 //         case F2: a = F3; return;
58 //         default: throw invalid_floor_reached();
59 //     }
60 // }
61
62 // inline void operator-- (FloorNum& a) {
63 //     switch (a) {
64 //         case F1: a = FG; return;
65 //         case F2: a = F1; return;
66 //         case F3: a = F2; return;
67 //         default: throw invalid_floor_reached();
68 //     }
69 // }

```

```

70
71 // inline void operator-- (FloorNum& a, int) {
72     // switch (a) {
73         // case F1: a = FG; return;
74         // case F2: a = F1; return;
75         // case F3: a = F2; return;
76         // default:           throw invalid_floor_reached();
77     // }
78 // }
79
80 enum ElevState {
81     ES_WAIT = 0b00,
82     ES_DOWN = 0b01,
83     ES_UP = 0b10,
84     ES_DC = 0b11 // wont be used (dont care)
85 };
86
87 inline std::string pretty(ElevState s) {
88     switch (s) {
89         case ES_WAIT:
90             return "Waiting";
91         case ES_DOWN:
92             return "Down";
93         case ES_UP:
94             return "Up";
95         default:
96             return "Broken";
97     }
98 }
99
100 struct Elevator {
101     std::atomic<FloorNum> mFloor;
102     std::atomic<ElevState> mState;
103     Door mDoor;
104     std::thread mThread;
105
106     std::atomic_bool mStop;
107
108     Elevator();
109     ~Elevator();
110
111     void start();
112     void reset(FloorNum flr);
113
114 };

```

```
1 #pragma once
2
3 #include <atomic>
4 #include <cstddef>
5 #include <thread>
6
7 class FloorLights {
8     std::thread mThread;
9     std::atomic_uchar X20;
10
11 public:
12     FloorLights();
13     ~FloorLights();
14
15     unsigned char getLights();
16
17     void start();
18
19 };
```

```
1 #pragma once
2
3 #include <string>
4
5 enum IRState {
6     IR_OFF = 0b00,
7     IR_BUSY,
8     IR_CLEAR,
9     IR_DONE
10 }
11
12
13 inline std::string pretty(IRState s) {
14     switch (s) {
15         case IR_OFF:
16             return "Sensor Off";
17         case IR_BUSY:
18             return "Person Walking";
19         case IR_CLEAR:
20             return "No Person Walking";
21         case IR_DONE:
22             return "Sensor Done";
23         default:
24             return "Laser weapons kill people";
25     }
26 }
27
28 struct IR_Sensor {
29     IRState mState;
30
31     void start();
32 };
```

```
1 #pragma once
2
3 #include <chrono>
4 #include <iostream>
5
6 using clk = std::chrono::system_clock; // I am not typeing all that over and over
7 using namespace std::chrono_literals;
8
9 #include "controller.hpp"
10 #include "elevator.hpp"
11 #include "clock.hpp"
12 #include "memory.hpp"
13 #include "door.hpp"
14 #include "floor_lights.hpp"
15 #include "ir_sensor.hpp"
16
17 extern std::atomic_bool FireKey;
18 extern std::atomic_bool IRon;
19 extern std::atomic_bool Sound;
20
21 extern std::atomic_bool gStop;
22 extern std::atomic_bool gStart;
23
24 extern Elevator gLift;
25 extern Controller gControl;
26 extern Memory gMem;
27 extern Clock gClk;
28 extern FloorLights gFL;
```

```
1 #pragma once
2
3 #include <iostream>
4 #include <queue>
5 #include <mutex>
6
7 // //// NOT THREAD SAFE //////
8 // actually doesn't need to be, only thing accessing the memory is the
9 // controller and the inputs
10 // f*ck it I'm using a mutex, to lazy to think this through
11
12 class Memory {
13     std::queue<FloorNum> mFloors;
14     std::mutex mGuard;
15
16     FloorNum mFireFloor;
17
18 public:
19     FloorNum getFloor();
20     FloorNum getDefaultFloor();
21     void clearMem();
22     void setFloor(FloorNum flr);
23     bool isEmpty();
24
25 };
```