```
mkdir -p build

sdcc -mz80 --allow-unsafe-read -I . -I ../../arch/include -I ../../drivers/include -DDEBUG -c main.c
-o build/main.rel
sdcc -mz80 --no-std-crt0 build/crt0.rel -L ../../drivers/build -l drivers.a -pedantic
build/main.rel -o build/pio_test.hex
makebin -s 8192 -yo 1 build/pio_test.hex build/pio_test.bin
#dz80 -b -n build/pio_test.bin
r2 -a z80 build/pio_test.bin -A \
-c 'afr main 0x200; \
    pd 0x10; \
    s 0x100; \
    pd 10; \
    s 0x200; \
    pd 0xa0' \


/ (fcn) fcn.00000000 13
|   fcn.00000000 ();
|              ; XREFS: DATA 0x00000202  DATA 0x00000204  DATA 0x00000209  DATA 0x0000020c  DATA
0x00000216  DATA 0x00000219  DATA 0x00000220  DATA 0x00000221
|              ; XREFS: DATA 0x00000226  DATA 0x00000256
\        ,=< 0x00000000      c30001        jp loc.00000100
         |   0x00000003      ff            rst 0x38
         |   0x00000004      ff            rst 0x38
         |   0x00000005      ff            rst 0x38
         |   0x00000006      ff            rst 0x38
         |   0x00000007      ff            rst 0x38
         |   0x00000008      ff            rst 0x38
         |   0x00000009      ff            rst 0x38
         |   0x0000000a      ff            rst 0x38
         |   0x0000000b      ff            rst 0x38
         |   0x0000000c      ff            rst 0x38
         |   0x0000000d      ff            rst 0x38
         |   0x0000000e      ff            rst 0x38
         |   0x0000000f      ff            rst 0x38
         |   0x00000010      ff            rst 0x38
         |   0x00000011      ff            rst 0x38
|- loc.00000100 10
|   loc.00000100 ();
|              ; JMP XREF from 0x00000000 (fcn.00000000)
|              ; JMP XREF from 0x00000106 (loc.00000100)
|          0x00000100      31ffff        ld sp, 0xffff
|          0x00000103      cd0002        call main
|      ,=< 0x00000106      c30901        jp 0x0109
|      |       ; JMP XREF from 0x00000106 (loc.00000100)
\      `-> 0x00000109      76            halt
           0x0000010a      ff            rst 0x38
           0x0000010b      ff            rst 0x38
           0x0000010c      ff            rst 0x38
           0x0000010d      ff            rst 0x38
           0x0000010e      ff            rst 0x38
           0x0000010f      ff            rst 0x38
/ (fcn) main 50
|   main ();
|              ; CALL XREF from 0x00000103 (loc.00000100)
|              ; CALL XREF from 0x00000200 (main)
```

```
|              0x00000200      0600          ld b, 0x00
|              0x00000202      c5            push bc
|              0x00000203      af            xor a
|              0x00000204      f5            push af
|              0x00000205      33            inc sp
|              0x00000206      210300        ld hl, 0x0003
|              0x00000209      e5            push hl
|              0x0000020a      2e00          ld l, 0x00
|              0x0000020c      e5            push hl
|              0x0000020d      cd5502        call fcn.00000255
|              0x00000210      f1            pop af
|              0x00000211      f1            pop af
|              0x00000212      33            inc sp
|              0x00000213      210000        ld hl, 0x0000
|              0x00000216      e5            push hl
|              0x00000217      2e00          ld l, 0x00
|              0x00000219      e5            push hl
|              0x0000021a      cd8e02        call fcn.0000028e
|              0x0000021d      f1            pop af
|              0x0000021e      f1            pop af
\              0x0000021f      c1            pop bc
|          ; JMP XREF from 0x00000230 (main)
|     .-> 0x00000220      c5            push bc
|     |   0x00000221      c5            push bc
|     |   0x00000222      33            inc sp
|     |   0x00000223      210000        ld hl, 0x0000
|     |   0x00000226      e5            push hl
|     |   0x00000227      cde002        call fcn.000002e0
|     |   0x0000022a      f1            pop af
|     |   0x0000022b      33            inc sp
|     |   0x0000022c      c1            pop bc
|     |   0x0000022d      78            ld a, b
|     |   0x0000022e      2f            cpl
|     |   0x0000022f      47            ld b, a
|     `=< 0x00000230      18ee          jr 0xee
|         0x00000232      210200        ld hl, 0x0002
|         0x00000235      39            add hl, sp
|         0x00000236      4e            ld c, [hl]
|         0x00000237      0600          ld b, 0x00
|         0x00000239      210042        ld hl, 0x4200
|         0x0000023c      09            add hl, bc
|         0x0000023d      fd210300      ld iy, 0x0003
|         0x00000241      fd39          add iy, sp
|         0x00000243      fd7e00        ld a, [iy+0x00]
|         0x00000246      77            ld [hl], a
|         0x00000247      c9            ret
|         0x00000248      210200        ld hl, 0x0002
|         0x0000024b      39            add hl, sp
|         0x0000024c      4e            ld c, [hl]
|         0x0000024d      0600          ld b, 0x00
|         0x0000024f      210042        ld hl, 0x4200
|         0x00000252      09            add hl, bc
|         0x00000253      6e            ld l, [hl]
|         0x00000254      c9            ret
/ (fcn) fcn.00000255 8
|   fcn.00000255 ();
```

```
|                      ; CALL XREF from 0x0000020d (main)
|          0x00000255       dde5            push ix
|          0x00000257       dd210000        ld ix, 0x0000
\          0x0000025b       dd39            add ix, sp
|          0x0000025d       dd7e06          ld a, [ix+0x06]
|          0x00000260       0f              rrca
|          0x00000261       0f              rrca
|          0x00000262       e6c0            and 0xc0
|          0x00000264       f60f            or 0x0f
|          0x00000266       57              ld d, a
|          0x00000267       dd5e04          ld e, [ix+0x04]
|          0x0000026a       1c              inc e
|          0x0000026b       1c              inc e
|          0x0000026c       6b              ld l, e
|          0x0000026d       2600            ld h, 0x00
|          0x0000026f       010042          ld bc, 0x4200
|          0x00000272       09              add hl, bc
|          0x00000273       72              ld [hl], d
|          0x00000274       dd7e06          ld a, [ix+0x06]
|          0x00000277       d603            sub 0x03
,=<       0x00000279       2010            jr nz, 0x10
 |        0x0000027b       dd7e07          ld a, [ix+0x07]
 |        0x0000027e       b7              or a
,==<      0x0000027f       200a            jr nz, 0x0a
||        0x00000281       dd4e08          ld c, [ix+0x08]
||        0x00000284       1600            ld d, 0x00
||        0x00000286       210042          ld hl, 0x4200
||        0x00000289       19              add hl, de
||        0x0000028a       71              ld [hl], c
``->      0x0000028b       dde1            pop ix
          0x0000028d       c9              ret
/ (fcn) fcn.0000028e 29
|    fcn.0000028e ();
|                      ; CALL XREF from 0x0000021a (main)
|          0x0000028e       210400          ld hl, 0x0004
|          0x00000291       39              add hl, sp
|          0x00000292       7e              ld a, [hl]
|          0x00000293       07              rlca
|          0x00000294       07              rlca
|          0x00000295       07              rlca
|          0x00000296       07              rlca
|          0x00000297       e6f0            and 0xf0
|          0x00000299       f607            or 0x07
|          0x0000029b       4f              ld c, a
|          0x0000029c       210200          ld hl, 0x0002
|          0x0000029f       39              add hl, sp
|          0x000002a0       5e              ld e, [hl]
|          0x000002a1       1c              inc e
|          0x000002a2       1c              inc e
|          0x000002a3       1600            ld d, 0x00
|          0x000002a5       210042          ld hl, 0x4200
|          0x000002a8       19              add hl, de
|          0x000002a9       71              ld [hl], c
\          0x000002aa       c9              ret
          0x000002ab       dde5            push ix
          0x000002ad       dd210000        ld ix, 0x0000
```

```
        0x000002b1        dd39            add ix, sp
        0x000002b3        dd7e06          ld a, [ix+0x06]
        0x000002b6        f617            or 0x17
        0x000002b8        57              ld d, a
        0x000002b9        dd5e04          ld e, [ix+0x04]
        0x000002bc        1c              inc e
        0x000002bd        1c              inc e
        0x000002be        6b              ld l, e
        0x000002bf        2600            ld h, 0x00
        0x000002c1        010042          ld bc, 0x4200
        0x000002c4        09              add hl, bc
        0x000002c5        72              ld [hl], d
        0x000002c6        dd4e08          ld c, [ix+0x08]
        0x000002c9        1600            ld d, 0x00
        0x000002cb        210042          ld hl, 0x4200
        0x000002ce        19              add hl, de
        0x000002cf        71              ld [hl], c
        0x000002d0        dde1            pop ix
        0x000002d2        c9              ret
        0x000002d3        210200          ld hl, 0x0002
        0x000002d6        39              add hl, sp
        0x000002d7        4e              ld c, [hl]
        0x000002d8        0600            ld b, 0x00
        0x000002da        210042          ld hl, 0x4200
        0x000002dd        09              add hl, bc
        0x000002de        6e              ld l, [hl]
        0x000002df        c9              ret
/ (fcn) fcn.000002e0 18
|   fcn.000002e0 ();
|            ; CALL XREF from 0x00000227 (main)
|       0x000002e0        210400          ld hl, 0x0004
|       0x000002e3        39              add hl, sp
|       0x000002e4        4e              ld c, [hl]
|       0x000002e5        210200          ld hl, 0x0002
|       0x000002e8        39              add hl, sp
|       0x000002e9        5e              ld e, [hl]
|       0x000002ea        1600            ld d, 0x00
|       0x000002ec        210042          ld hl, 0x4200
|       0x000002ef        19              add hl, de
|       0x000002f0        71              ld [hl], c
\       0x000002f1        c9              ret
        0x000002f2        ff              rst 0x38
        0x000002f3        ff              rst 0x38
        0x000002f4        ff              rst 0x38
        0x000002f5        ff              rst 0x38
        0x000002f6        ff              rst 0x38
        0x000002f7        ff              rst 0x38
        0x000002f8        ff              rst 0x38
        0x000002f9        ff              rst 0x38
        0x000002fa        ff              rst 0x38
        0x000002fb        ff              rst 0x38
        0x000002fc        ff              rst 0x38
        0x000002fd        ff              rst 0x38
        0x000002fe        ff              rst 0x38
        0x000002ff        ff              rst 0x38
        0x00000300        ff              rst 0x38
```

```
        0x00000301        ff               rst 0x38
        0x00000302        ff               rst 0x38
```
-- Change the graph block definition with graph.callblocks, graph.jmpblocks, graph.flagblocks
[0x00000200]>

```
        0x00000301        ff               rst 0x38
        0x00000302        ff               rst 0x38
```
-- Change the graph block definition with graph.callblocks, graph.jmpblocks, graph.flagblocks
[0x00000200]>