Synthesized solution for benchmark `03syscalls.c`

```
solution
  └── (Complete), cond:  x == 0
```

$Cond : b_{28}$
$k_1 = fv\_1 = 1000; c = array\_alloc(fv\_1); \langle b_{15} \cdot fv\_2 = 1; \langle \rangle = show(fv\_2); + \neg b_{15} \cdot 1 \rangle \cdot b = getchar();$
$\langle a_9 \cdot \langle \rangle = array\_write(c, b); b = b - \_i, ?1; \rangle * \neg a_9 \cdot r = array\_read(c);$
$k_2 = a = nondet(); c = array\_alloc(a); \langle b_{28} \cdot fv\_3 = 2; \langle \rangle = show(fv\_3); + \neg b_{28} \cdot 1 \rangle \cdot b = getchar();$
$\langle (a_{21} \wedge c_{22}) \cdot \langle \rangle = array\_write(c, b); b = b - \_i, ?1; \rangle * \langle \neg a_{21} \vee \neg c_{22} \rangle \cdot r = array\_read(c);$

```
    └── AComplete
```

$Axioms : \{ K = 1, L = T, M = 1, P = 1, W = 1, !a = !c, Q = 1, U = 1 \}$
$k_1 = fv\_1 = 1000; c = array\_alloc(fv\_1); \langle b_{15} \cdot fv\_2 = 1; \langle \rangle = show(fv\_2); + \neg b_{15} \cdot 1 \rangle \cdot b = getchar();$
$\langle a_9 \cdot \langle \rangle = array\_write(c, b); b = b - \_i, ?1; \rangle * \neg a_9 \cdot r = array\_read(c);$
$k_2 = a = nondet(); c = array\_alloc(a); 1 \cdot (b_{28} \cdot fv\_3 = 2; \langle \rangle = show(fv\_3); + \neg b_{28} \cdot 1) \cdot b = getchar();$
$\langle (a_{21} \wedge c_{22}) \cdot \langle \rangle = array\_write(c, b); b = b - \_i, ?1; \rangle * \langle \neg a_{21} \vee \neg c_{22} \rangle \cdot r = array\_read(c);$

$Cond : \neg b_{28}$
$k_1 = fv\_1 = 1000; c = array\_alloc(fv\_1); \langle b_{15} \cdot fv\_2 = 1; \langle \rangle = show(fv\_2); + \neg b_{15} \cdot 1 \rangle \cdot b = getchar();$
$\langle a_9 \cdot \langle \rangle = array\_write(c, b); b = b - \_i, ?1; \rangle * \neg a_9 \cdot r = array\_read(c);$
$k_2 = a = nondet(); c = array\_alloc(a); \langle b_{28} \cdot fv\_3 = 2; \langle \rangle = show(fv\_3); + \neg b_{28} \cdot 1 \rangle \cdot b = getchar();$
$\langle (a_{21} \wedge c_{22}) \cdot \langle \rangle = array\_write(c, b); b = b - \_i, ?1; \rangle * \langle \neg a_{21} \vee \neg c_{22} \rangle \cdot r = array\_read(c);$

```
    └── AComplete
```

$Axioms : \{ K = 1, L = T, M = 1, P = 1, W = 1, !a = !c, Q = 1, U = 1 \}$
$k_1 = fv\_1 = 1000; c = array\_alloc(fv\_1); \langle b_{15} \cdot fv\_2 = 1; \langle \rangle = show(fv\_2); + \neg b_{15} \cdot 1 \rangle \cdot b = getchar();$
$\langle a_9 \cdot \langle \rangle = array\_write(c, b); b = b - \_i, ?1; \rangle * \neg a_9 \cdot r = array\_read(c);$
$k_2 = a = nondet(); c = array\_alloc(a); 1 \cdot (b_{28} \cdot fv\_3 = 2; \langle \rangle = show(fv\_3); + \neg b_{28} \cdot 1) \cdot b = getchar();$
$\langle (a_{21} \wedge c_{22}) \cdot \langle \rangle = array\_write(c, b); b = b - \_i, ?1; \rangle * \langle \neg a_{21} \vee \neg c_{22} \rangle \cdot r = array\_read(c);$

Remaining 154 solutions ommitted for brevity.