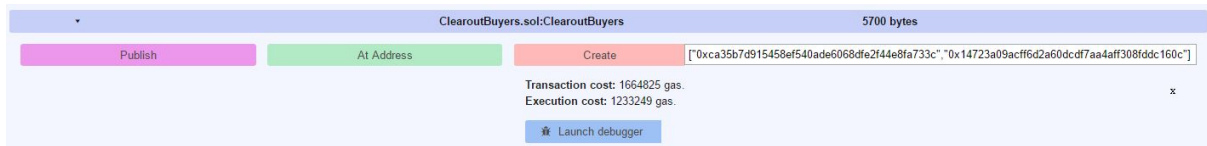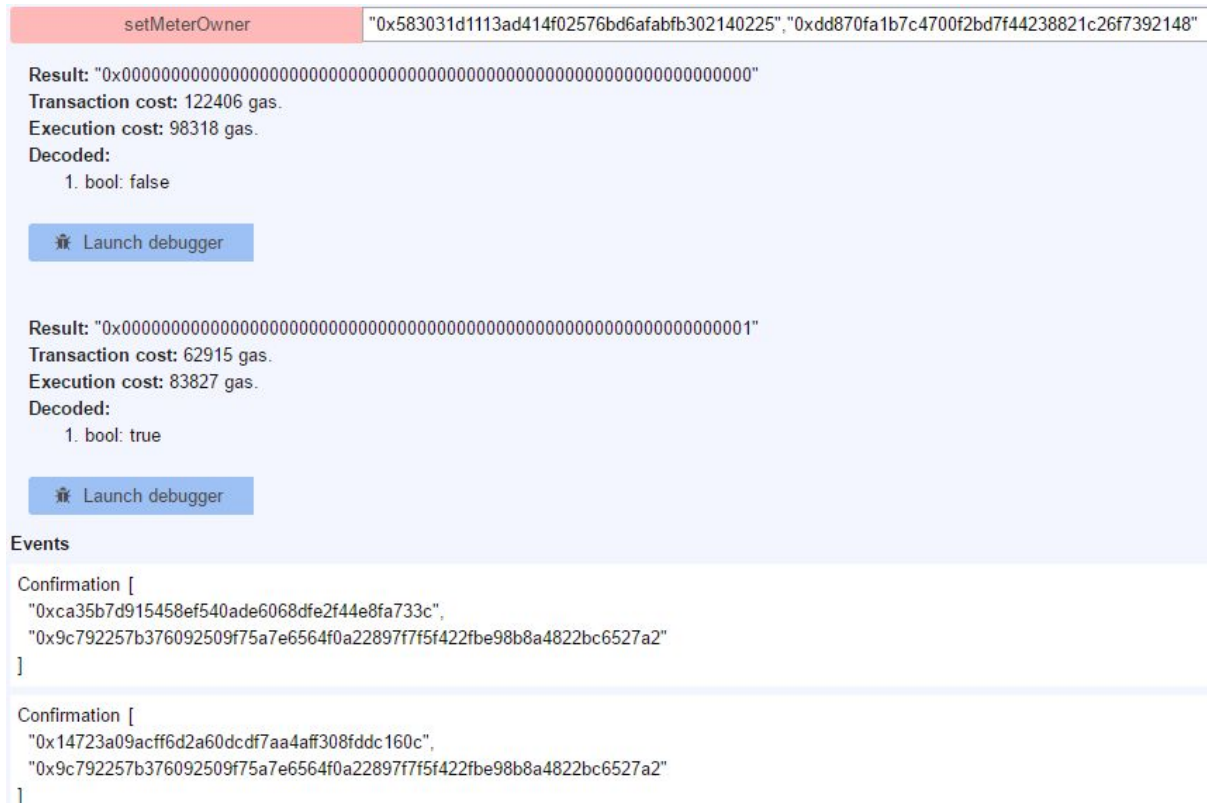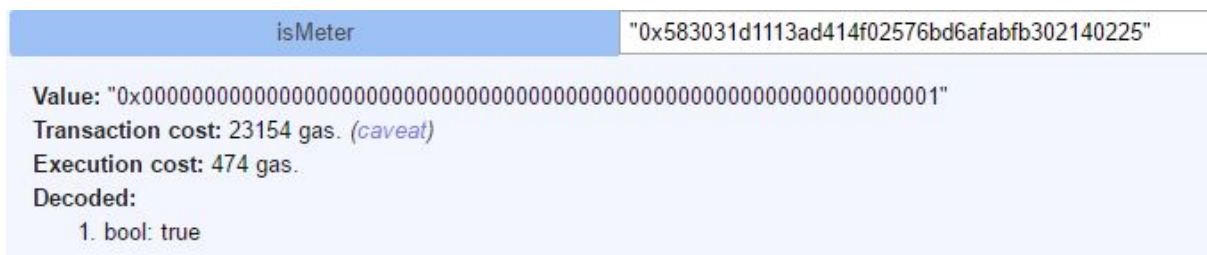测试时间：2017-6-27
测试环境：remix.ethereum.org

1、部署智能合约

2、setMeterOwner　要求多签名

设置成功后，可以查看电表是否注册过：

只有注册过的电表才能设置初始值和提交电表读数

3、setIntialMeter

setIntialMeter	100,200,300

Result: "0x0000000000000000000000000000000000000000000000000000000000000001"
Transaction cost: 84578 gas.
Execution cost: 62666 gas.
Decoded:
    1. bool: true

SetIntialMeter [
 "100",
 "200",
 "300",
 "0x583031d1113ad414f02576bd6afabfb302140225"
]

初始值设置成功后，可以查看电表初值

initialMeter	"0x583031d1113ad414f02576bd6afabfb302140225"

Value: "0x0000000000000000000000000000000000000000000000000000000000006400000000000000000000000000000000000000000000000000000000
Transaction cost: 23204 gas. (caveat)
Execution cost: 524 gas.
Decoded:
    1. uint256 peak: 100
    2. uint256 valley: 200
    3. uint256 flat: 300

4、meterOpened 记录电表在使用过程中是否被打开过

meterOpened	true

Result: "0x0000000000000000000000000000000000000000000000000000000000000001"
Transaction cost: 43484 gas.
Execution cost: 22020 gas.
Decoded:
    1. bool: true

IsMeterOpened [
 "true",
 "0x583031d1113ad414f02576bd6afabfb302140225"
]

5、withdrawPower, 要求多签名

| withdrawPower | 150,1,"0x583031d1113ad414f02576bd6afabfb302140225",0,0,"0xdd870fa1b7c4700f2bd7f44238821c26f7392148" |

Result: "0x0000000000000000000000000000000000000000000000000000000000000000"   x
Transaction cost: 123025 gas.
Execution cost: 98297 gas.
Decoded:
    1. bool: false

    🐞 Launch debugger

Result: "0x0000000000000000000000000000000000000000000000000000000000000001"   x
Transaction cost: 35253 gas.
Execution cost: 45777 gas.
Decoded:
    1. bool: true

Confirmation [
 "0xca35b7d915458ef540ade6068dfe2f44e8fa733c",
 "0x114657dc41283b1c436fd60a3bf6aaaaeb875691203e8e62e90dce733a84ee30"
]

Confirmation [
 "0x14723a09acff6d2a60dcdf7aa4aff308fddc160c",
 "0x114657dc41283b1c436fd60a3bf6aaaaeb875691203e8e62e90dce733a84ee30"
]

WithdrawPower [
 "150",
 "1",
 "0x583031d1113ad414f02576bd6afabfb302140225",
 "0xdd870fa1b7c4700f2bd7f44238821c26f7392148"
]

| withdrawPower | 180,2,"0x583031d1113ad414f02576bd6afabfb302140225",0,0,"0xdd870fa1b7c4700f2bd7f44238821c26f7392148" |

Result: "0x0000000000000000000000000000000000000000000000000000000000000000"   x
Transaction cost: 123025 gas.
Execution cost: 98297 gas.
Decoded:
    1. bool: false

    🐞 Launch debugger

Result: "0x0000000000000000000000000000000000000000000000000000000000000001"   x
Transaction cost: 35282 gas.
Execution cost: 45835 gas.
Decoded:
    1. bool: true

Confirmation [
  "0xca35b7d915458ef540ade6068dfe2f44e8fa733c",
  "0xb29893c99946787d1db422a2f4514756a1e0add0b0c7f9bcd588987fbdf94344"
]

Confirmation [
  "0x14723a09acff6d2a60dcdf7aa4aff308fddc160c",
  "0xb29893c99946787d1db422a2f4514756a1e0add0b0c7f9bcd588987fbdf94344"
]

WithdrawPower [
  "180",
  "2",
  "0x583031d1113ad414f02576bd6afabfb302140225",
  "0xdd870fa1b7c4700f2bd7f44238821c26f7392148"
]

| withdrawPower | 200,3,"0x583031d1113ad414f02576bd6afabfb302140225",0,0,"0xdd870fa1b7c4700f2bd7f44238821c26f7392148" |

Result: "0x0000000000000000000000000000000000000000000000000000000000000000"   x
Transaction cost: 123025 gas.
Execution cost: 98297 gas.
Decoded:
  1. bool: false

🐞 Launch debugger

Result: "0x0000000000000000000000000000000000000000000000000000000000000001"   x
Transaction cost: 35305 gas.
Execution cost: 45881 gas.
Decoded:
  1. bool: true

Confirmation [x
  "0xca35b7d915458ef540ade6068dfe2f44e8fa733c",
  "0xdb266b2eb8a0219a257e07aecc7035f191078671176811ff920d39d30e178a64"
]

Confirmation [x
  "0x14723a09acff6d2a60dcdf7aa4aff308fddc160c",
  "0xdb266b2eb8a0219a257e07aecc7035f191078671176811ff920d39d30e178a64"
]

WithdrawPower [x
  "200",
  "3",
  "0x583031d1113ad414f02576bd6afabfb302140225",
  "0xdd870fa1b7c4700f2bd7f44238821c26f7392148"
]

withdrawPower	200,0,"0x583031d1113ad414f02576bd6afabfb302140225",0,0,"0xdd870fa1b7c4700f2bd7f44238821c26f7392148"

Result: "0x0000000000000000000000000000000000000000000000000000000000000000"   x
Transaction cost: 122961 gas.
Execution cost: 98297 gas.
Decoded:
    1. bool: false

    🐞 Launch debugger

Result: "0x0000000000000000000000000000000000000000000000000000000000000000"   x
Transaction cost: 25071 gas.
Execution cost: 25477 gas.
Decoded:
    1. bool: false

Confirmation [
  "0xca35b7d915458ef540ade6068dfe2f44e8fa733c",
  "0xaab7547a923a73c1dccb983a31e930220ae9057abbbb8b6424d256c3ef42beef"
]

Confirmation [
  "0x14723a09acff6d2a60dcdf7aa4aff308fddc160c",
  "0xaab7547a923a73c1dccb983a31e930220ae9057abbbb8b6424d256c3ef42beef"
]

WithdrawPower [
  "0",
  "0",
  "0x583031d1113ad414f02576bd6afabfb302140225",
  "0xdd870fa1b7c4700f2bd7f44238821c26f7392148"
]

withdrawPower	200,0,"0x583031d1113ad414f02576bd6afabfb302140225",1,0,"0xdd870fa1b7c4700f2bd7f44238821c26f7392148"

Result: "0x0000000000000000000000000000000000000000000000000000000000000000"   x
Transaction cost: 123153 gas.
Execution cost: 98297 gas.
Decoded:
    1. bool: false

    🐞 Launch debugger

Exception during execution. (invalid opcode). Please debug the transaction for more information.   x

Confirmation [
  "0xca35b7d915458ef540ade6068dfe2f44e8fa733c",
  "0xdc1496b131b510b6b05f23b47fc9258cf94d01296bdc2861288ef05691c10152"
]

| withdrawPower | 300,1,"0x583031d1113ad414f02576bd6afabfb302140225",0,1,"0xdd870fa1b7c4700f2bd7f44238821c26f7392148" |

Result: "0x0000000000000000000000000000000000000000000000000000000000000000"
Transaction cost: 123153 gas.
Execution cost: 98297 gas.
Decoded:
    1. bool: false

🐞 Launch debugger

Result: "0x0000000000000000000000000000000000000000000000000000000000000001"
Transaction cost: 35317 gas.
Execution cost: 45777 gas.
Decoded:
    1. bool: true

Confirmation [
  "0xca35b7d915458ef540ade6068dfe2f44e8fa733c",
  "0x3291bae98b779794de26294f5852cc64520f8825f71c9f2c451328b06d4d1659"
]

Confirmation [
  "0x14723a09acff6d2a60dcdf7aa4aff308fddc160c",
  "0x3291bae98b779794de26294f5852cc64520f8825f71c9f2c451328b06d4d1659"
]

WithdrawPower [
  "300",
  "1",
  "0x583031d1113ad414f02576bd6afabfb302140225",
  "0xdd870fa1b7c4700f2bd7f44238821c26f7392148"
]

6、submitPower

| submitPower | 150,1,0 |

Result: "0x00000000000000000000000000000000000000000000000000000000000000000
Transaction cost: 19632 gas.
Execution cost: 12848 gas.
Decoded:
    1. bool: true

SubmitPower [
  "150",
  "1"
]

| submitPower | 180,2,0 |

Result: "0x00000000000000000000000000000000000000000000000000000000000000000
Transaction cost: 19717 gas.
Execution cost: 12933 gas.
Decoded:
    1. bool: true

SubmitPower [
  "180",
  "2"
]   x

submitPower   200,3,0

Result: "0x0000000000000000000000000000000000000000000000000000000000000001" x
Transaction cost: 19763 gas.
Execution cost: 12979 gas.
Decoded:
    1. bool: true

SubmitPower [
  "200",
  "3"
]   x

出清后可以查看可用电量：

powers   "0x583031d1113ad414f02576bd6afabfb302140225",0

Value: "0x0000000000000000000000000000000000000000000000000000000000000000
Transaction cost: 23586 gas. *(caveat)*
Execution cost: 778 gas.
Decoded:
    1. uint256 peak: 0
    2. uint256 valley: 0
    3. uint256 flat: 0