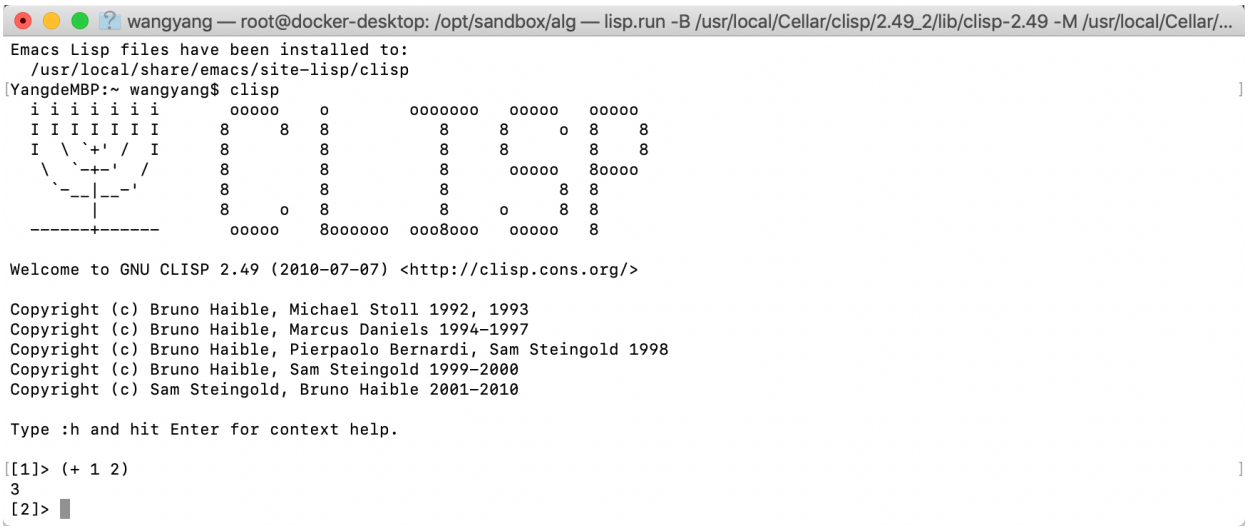
作业




```
root@d83ade9ee1c1:/src/blockstack-core# clarity-cli generate_address
 SP2QACC2YCX51G0K42R7KE1PWD3REDW9W4D35RQT5
```

```
root@d83ade9ee1c1:/src/blockstack-core# export DEMO_ADDRESS=SP2QACC2YCX51G0K42R7
KE1PWD3REDW9W4D35RQT5
```

```
root@d83ade9ee1c1:/src/blockstack-core# echo $DEMO_ADDRESS
SP2QACC2YCX51G0K42R7KE1PWD3REDW9W4D35RQT5
```

```
root@d83ade9ee1c1:/src/blockstack-core/sample-programs# clarity-cli execute /dat
a/db/ $DEMO_ADDRESS.sum sum $DEMO_ADDRESS  u10 u215
Transaction executed and committed. Returned: u225
```

```
(define-map tokens ((account principal)) ((balance uint))) ;定义名为tokens的map，key为持有地址，value为token数量
(define-private (get-balance (account principal)) ;定义私有函数，入参为用户地址
  (default-to u0 (get balance (map-get? tokens (tuple (account account)))))) ;返回输入地址持有的token数量

(define-private (token-credit! (account principal) (amount uint));定义私有函数token-credit
  (if (<= amount u0) ;如果amount<=0
  (err "must move positive balance") ;抛出错误，请输入正数
  (let ((current-amount (get-balance account))) ;定义current-ammount=输入地址的当前token数量
  (begin
   (map-set tokens (tuple (account account))
```

```
11   (tuple (balance (+ amount current-amount)))) ;给tokens中的的入参地址的key+amount的token
12   (ok amount)))))
13
14  (define-public (token-transfer (to principal) (amount uint));定义一份公有方法，token-transfer，参数为收款人地址和转账数
15   (let ((balance (get-balance tx-sender))) ;定义变量balance=调用发起者的token数量
16   (if (or (> amount balance) (<= amount u0)) ;如果转账数量超过持有token或转账数额<=0则抛出错误
17   (err "must transfer positive balance and possess funds")
18   (begin
19   (map-set tokens (tuple (account tx-sender))
20   (tuple (balance (- balance amount)))) ;给转账发起者减去amount数量的token
21   (token-credit! to amount))))) ;给接受者增加token
22
23  (define-public (mint! (amount uint)) ;定义函数mint!，入参为amount
24   (let ((balance (get-balance tx-sender))) ;定员变量banlance=调用者持有token数量
25   (token-credit! tx-sender amount))) ;给调用者增加amount的token
26
27  (token-credit! 'SZ2J6ZY48GV1EZ5V2V5RB9MP66SW86PYKKQ9H6DPR u10000) //给地址SZ2J..6DPR增加10000token
28  (token-credit! 'SM2J6ZY48GV1EZ5V2V5RB9MP66SW86PYKKQVX8X0G u300) //给地址SZ2J..8X0G增加300token
29
```

思考题目

题目1：

智能合约带来的是逻辑代码的公开。一方面带来了开放，另一方面也带来了安全隐患，对编码的安全性要求大大提高了

题目2：

可以将一些原本放在radiks内的重要数据，比如dapp积分等放到智能合约中，其他的一些不涉及隐私or安全的公共值依旧可以放在radiks，更多的个人隐私数据依旧放在gaia中，不不冲突

题目3：

留言板中可以不做改动。也可以将原本存在radiks中的数据存放到合约的map中publicMessage为明文数据，其他私有group存储加密数据

define-map message ((publicMessage buffer) (group1 buffer) ...) ((messageList list) (messageList list) ...)