

```
-module(helloworld).  
-export([start/0,account/1,bank/0,clerk/0]).
```

```
n2s(N) -> lists:flatten(io_lib:format("~p", [N])). %% HACK!
```

```
account(Balance) ->  
  receive  
    {deposit,Amount} ->  
      account(Balance+Amount);  
    {printbalance} ->  
      io:fwrite(n2s(Balance) ++ "\n")  
  end.
```

```
bank() ->  
  receive  
    {transfer,Amount,From,To} ->  
      From ! {deposit,-Amount},  
      To ! {deposit,+Amount},  
      bank()  
  end.
```

```
random(N) -> random:uniform(N) div 10.
```

```
ntransfers(0,_,_,_) -> true;  
ntransfers(N,Bank,From,To) ->  
  R = random(100),  
  Bank ! {transfer,R,From,To},  
  ntransfers(N-1,Bank,From,To).
```

```
clerk() ->  
  receive  
    {start,Bank,From,To} ->  
      random:seed(now()),  
      ntransfers(100,Bank,From,To),  
      clerk()  
  end.
```

```
start() ->  
  A1 = spawn(helloworld,account,[0]),  
  A2 = spawn(helloworld,account,[0]),  
  B1 = spawn(helloworld,bank,[]),  
  B2 = spawn(helloworld,bank,[]),  
  C1 = spawn(helloworld,clerk,[]),  
  C2 = spawn(helloworld,clerk,[]),  
  C1 ! {start,B1,A1,A2},  
  C2 ! {start,B2,A2,A1},  
  timer:sleep(1000),  
  A1 ! {printbalance},  
  A2 ! {printbalance}.
```