Blockchain实验一

1. 在linux上获取私钥：

Private key: cPa3BdrDrts8oa1Mx6Znks3bqw5LCq2ERd7o3tL9BEM9QCZhYhq1

Address: mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy

3.返回的哈希值

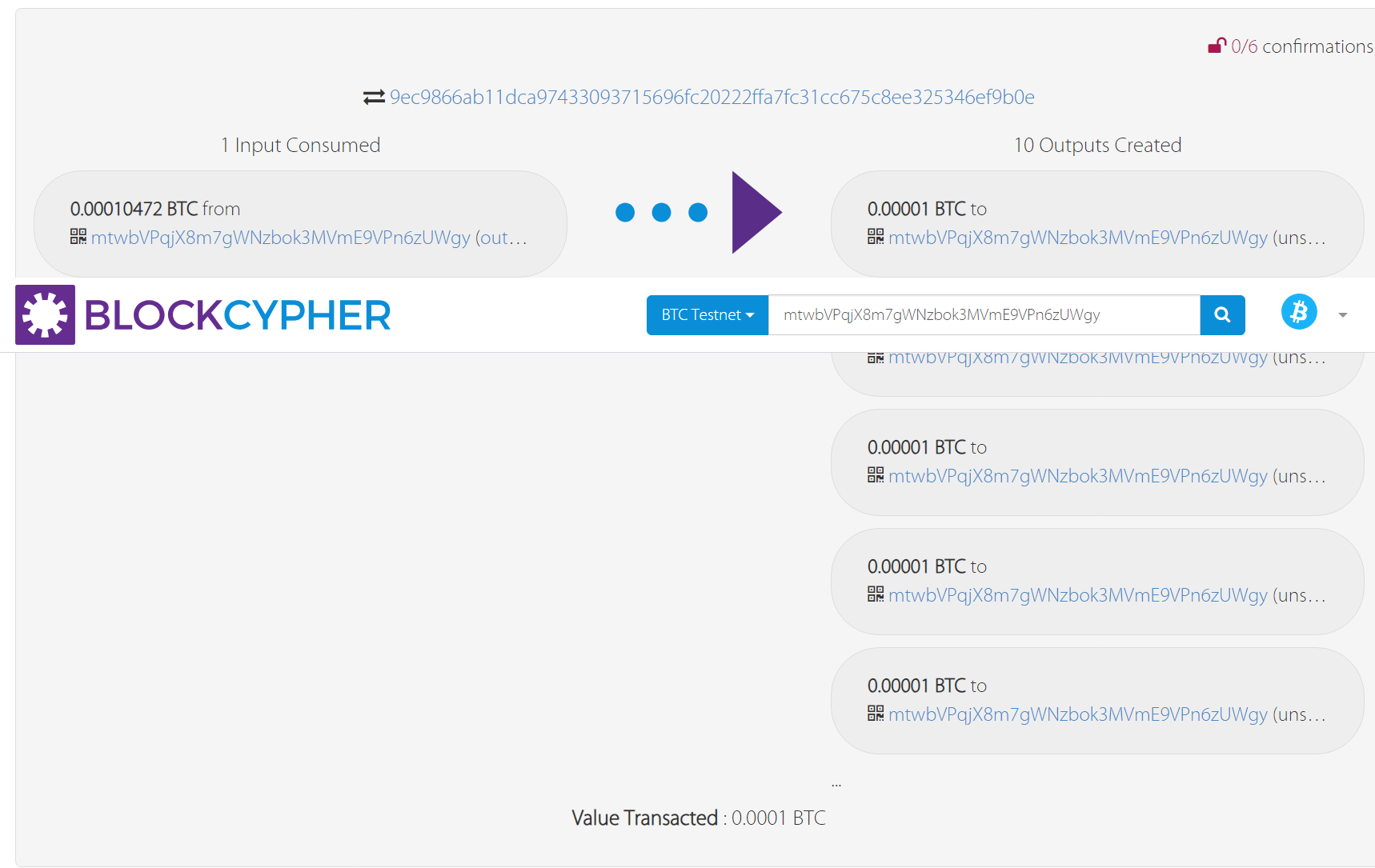
##### tx: [3bd6d7c4a0f1300932e63f0d8ffa8e4642b88884a70bdfc02f36988be2eaa32f](https://live.blockcypher.com/btc-testnet/tx/3bd6d7c4a0f1300932e63f0d8ffa8e4642b88884a70bdfc02f36988be2eaa32f)

可在区块链浏览器

追踪交易（https://live.blockcypher.com/btc-testnet/）。之后的实验会用到此数据。

##### [01c85c3b767cb238281fcfa726b472712510b1e50d9bc9983066cf160ab1109e](https://live.blockcypher.com/btc-testnet/tx/01c85c3b767cb238281fcfa726b472712510b1e50d9bc9983066cf160ab1109e)

分割操作：



201 Created

{

"tx": {

"block\_height": -1,

"block\_index": -1,

"hash": "9ec9866ab11dca97433093715696fc20222ffa7fc31cc675c8ee325346ef9b0e",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"total": 10000,

"fees": 472,

"size": 497,

"vsize": 497,

"preference": "low",

"relayed\_by": "60.29.153.55",

"received": "2024-10-04T02:54:30.251319052Z",

"ver": 1,

"double\_spend": false,

"vin\_sz": 1,

"vout\_sz": 10,

"confirmations": 0,

"inputs": [

{

"prev\_hash": "01c85c3b767cb238281fcfa726b472712510b1e50d9bc9983066cf160ab1109e",

"output\_index": 0,

"script": "4730440220488bcc55d68345d71b5868fa6efd8fb2566f753e8da73cd16fb98ce2ae3a6396022003f5f9096ce64043bb2d0db726f5bfb374767f43fdad8202a658cc67938bd0760121020878f379cf2bb671a09bcc67392944919eff20a24fb0091039d2b2eacc46c882",

"output\_value": 10472,

"sequence": 4294967295,

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash",

"age": 0

}

],

"outputs": [

{

"value": 1000,

"script": "76a9149342aae38e986b80bccbf8631b1bcd17930820ea88ac",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 1000,

"script": "76a9149342aae38e986b80bccbf8631b1bcd17930820ea88ac",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 1000,

"script": "76a9149342aae38e986b80bccbf8631b1bcd17930820ea88ac",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 1000,

"script": "76a9149342aae38e986b80bccbf8631b1bcd17930820ea88ac",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 1000,

"script": "76a9149342aae38e986b80bccbf8631b1bcd17930820ea88ac",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash"

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{

"value": 1000,

"script": "76a9149342aae38e986b80bccbf8631b1bcd17930820ea88ac",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 1000,

"script": "76a9149342aae38e986b80bccbf8631b1bcd17930820ea88ac",

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],

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},

{

"value": 1000,

"script": "76a9149342aae38e986b80bccbf8631b1bcd17930820ea88ac",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 1000,

"script": "76a9149342aae38e986b80bccbf8631b1bcd17930820ea88ac",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash"

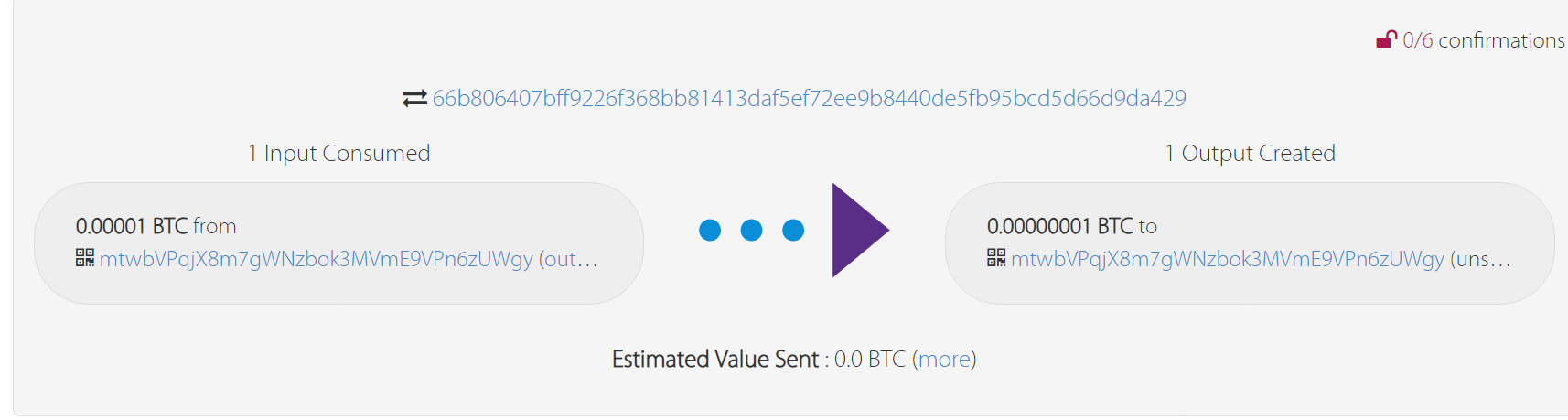
}

]

}

}

将测试币发回给faucet



201 Created

{

"tx": {

"block\_height": -1,

"block\_index": -1,

"hash": "66b806407bff9226f368bb81413daf5ef72ee9b8440de5fb95bcd5d66d9da429",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"total": 1,

"fees": 999,

"size": 191,

"vsize": 191,

"preference": "low",

"relayed\_by": "117.131.219.27",

"received": "2024-10-04T08:34:09.206901168Z",

"ver": 1,

"double\_spend": false,

"vin\_sz": 1,

"vout\_sz": 1,

"confirmations": 0,

"inputs": [

{

"prev\_hash": "9ec9866ab11dca97433093715696fc20222ffa7fc31cc675c8ee325346ef9b0e",

"output\_index": 1,

"script": "473044022066ef8447af3f92c5d40f00b1c3988c1bd1ecb3de0da5279328327b27dcf6f37102206b014c6b03915287521fdd23a6daa42157cef4f66f7c00e7ea3b47f922290cf10121020878f379cf2bb671a09bcc67392944919eff20a24fb0091039d2b2eacc46c882",

"output\_value": 1000,

"sequence": 4294967295,

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash",

"age": 0

}

],

"outputs": [

{

"value": 1,

"script": "76a9149342aae38e986b80bccbf8631b1bcd17930820ea88ac",

"addresses": [

"mtwbVPqjX8m7gWNzbok3MVmE9VPn6zUWgy"

],

"script\_type": "pay-to-pubkey-hash"

}

]

}

}

# 实验四

1. 生成Alice 和 Bob 创建 BTC testnet 密钥。

Alice：cQ1pqfMxWETYzRdN9YyFDmR5jxCP62UFtXC7jzP5UkGosJ4S1Vu3

mgDaBAQPdfx3f7QC21TbZwwbwTTCzW8ETH

Bob:cSQVzPcDxxvGkniv3HXk4wVjp4WvguoroeJ7gSykqaUdnTSkWccA

mrefCxgB3fjTYCub1TDerm176j6678bWbw

在 Project1 中相同的 coinfaucet 上，https://coinfaucet.eu/en/btc-testnet/，为 Alice

的 BTC 地址领取测试币:

### We sent 0.00017459 bitcoins to address

mgDaBAQPdfx3f7QC21TbZwwbwTTCzW8ETH

##### tx: [0426910d3304d20aa124dc91706ad4ca7ec2dae820c59cd4226d0323bef716fc](https://blockstream.info/testnet/tx/0426910d3304d20aa124dc91706ad4ca7ec2dae820c59cd4226d0323bef716fc)

Send coins back, when you don't need them anymore to the address

tb1qerzrlxcfu24davlur5sqmgzzgsal6wusda40er

在 Blockcypher 注册帐户以获取 API token：

Token 9b2ad31efbba456098ad28331df4fe8f

为 Alice 和 Bob 创建 BCY testnet 密钥并填入 keys.py.

Alice:

curl -X POST https://api.blockcypher.com/v1/bcy/test/addrs?token=YOURTOKEN

{

"private": "6d46a7026b34e24661229428c96ac81d9766be574fe5350b7ca504a7b5b9e7e2",

"public": "03599c577b0d1b1f87989f820e0f3965e7b605a617ef4c88b55ec4947ec35b212a",

"address": "C7ZQ8WfSFbzHNW5pViBJ1mPiTj55vUFEmT",

"wif": "BrzSzjMUQnfmt2QFBsqyRK3w4vg39kbVmWT67Z5rp1YttiTY6QpJ"

Bob:

{

"private": "0792834dd0335a74373cf9fbaadbffaccd8bf018c4fcac3d8f079dd1e3c334f5",

"public": "02b8c8c2e8c90ae0ed8d41007ad402f54835ca4c84ad5d0384c697fac3d6faae99",

"address": "CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX",

"wif": "BoakUVWYWiFSymF52swFXPKoghzrenctUW2avn32TUxMUTKr5X6L"

在 Blockcypher 测试网（BCY）上为 Bob 的 BCY 地址领取测试币

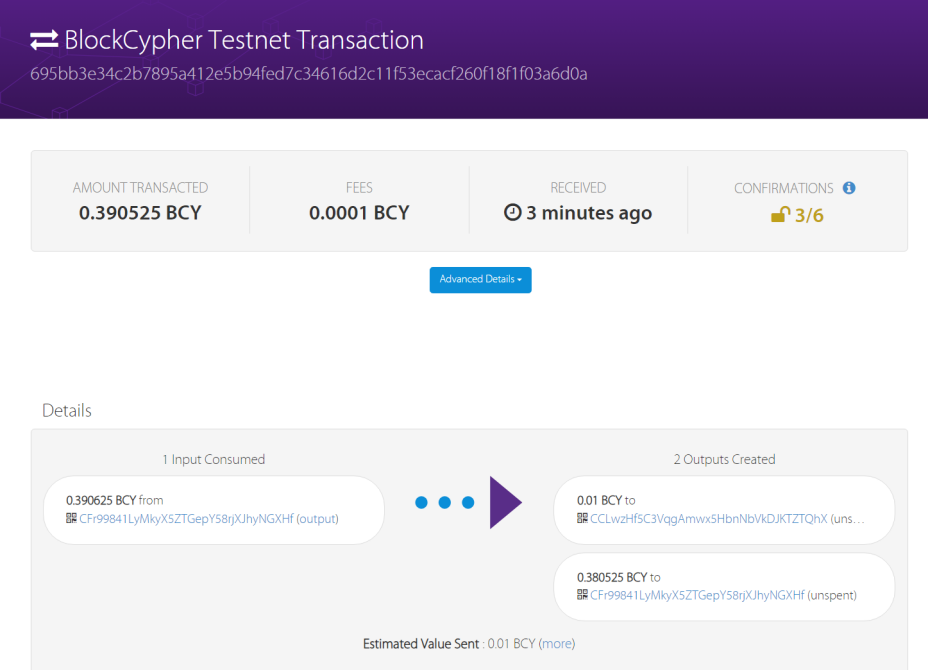
curl -d {"address":"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX", "amount": 10000}’

<https://api.blockcypher.com/v1/bcy/test/faucet?token=9b2ad31efbba456098ad28331df4fe8f>

{

"tx\_ref": "695bb3e34c2b7895a412e5b94fed7c34616d2c11f53ecacf260f18f1f03a6d0a"

}



分币操作：

201 Created

{

"tx": {

"block\_height": -1,

"block\_index": -1,

"hash": "c76fd5dbcee757781cd8c8993b38a8e487ef43d77e360897c68aff18fdb237ee",

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"total": 1000000,

"fees": 0,

"size": 497,

"vsize": 497,

"preference": "low",

"relayed\_by": "221.238.245.56",

"received": "2024-11-19T01:30:25.674884015Z",

"ver": 1,

"double\_spend": false,

"vin\_sz": 1,

"vout\_sz": 10,

"confirmations": 0,

"inputs": [

{

"prev\_hash": "695bb3e34c2b7895a412e5b94fed7c34616d2c11f53ecacf260f18f1f03a6d0a",

"output\_index": 0,

"script": "4730440220510882a52296fdcc2460f325bba055cd0d0462256f4822825aca334abb2b6b2c02204d55e083a151a70c423fb59def5f3b634c27e38b5c77d287cfc521b6151c0a32012102b8c8c2e8c90ae0ed8d41007ad402f54835ca4c84ad5d0384c697fac3d6faae99",

"output\_value": 1000000,

"sequence": 4294967295,

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"script\_type": "pay-to-pubkey-hash",

"age": 1594428

}

],

"outputs": [

{

"value": 100000,

"script": "76a914d2cf70394de40de71447703819d833e8353403e488ac",

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 100000,

"script": "76a914d2cf70394de40de71447703819d833e8353403e488ac",

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 100000,

"script": "76a914d2cf70394de40de71447703819d833e8353403e488ac",

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 100000,

"script": "76a914d2cf70394de40de71447703819d833e8353403e488ac",

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 100000,

"script": "76a914d2cf70394de40de71447703819d833e8353403e488ac",

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"script\_type": "pay-to-pubkey-hash"

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{

"value": 100000,

"script": "76a914d2cf70394de40de71447703819d833e8353403e488ac",

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 100000,

"script": "76a914d2cf70394de40de71447703819d833e8353403e488ac",

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"script\_type": "pay-to-pubkey-hash"

},

{

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],

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},

{

"value": 100000,

"script": "76a914d2cf70394de40de71447703819d833e8353403e488ac",

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"script\_type": "pay-to-pubkey-hash"

},

{

"value": 100000,

"script": "76a914d2cf70394de40de71447703819d833e8353403e488ac",

"addresses": [

"CCLwzHf5C3VqgAmwx5HbnNbVkDJKTZTQhX"

],

"script\_type": "pay-to-pubkey-hash"

}

]

}

}