BLOCKCHAIN

ASSIGNMENT 4

Add items to the array

```
truffle(ganache)> let instance = await EscrowPayments.deployed()
undefined
truffle(ganache)> instance.addItem('ItemA',10)
{
  tx: '0xb20d00d8ff9e5a7aed3198a9039d4052a1787c0845138c52588e88fb6f0d280f',
  receipt: {
    transactionHash: '0xb20d00d8ff9e5a7aed3198a9039d4052a1787c0845138c52588e88fb6f0d280f',
    transactionIndex: 0,
    blockHash: '0x37e125ec21d2d3cd2b143a2092efe2cd090f185399f3855bc2947f6ac4fe89c7',
    blockNumber: 1,
    from: '0xb6afe7d0464be0142af02dfa431648716cbcd286',
    to: '0xa63adc1b50209191737266e748ea8d3f80631228',
    gasUsed: 21672,
    cumulativeGasUsed: 21672,
    contractAddress: null,
    logs: [],
    status: true,
    logsBloom: '0x00000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000',
    rawLogs: []
  },
  logs: []
}
truffle(ganache)> instance.addItem('ItemB',10)
{
  tx: '0x11391317c3d5c073be4b53ee4029178a3678c6fda2eb9fb339c261b0cf5d84c6',
  receipt: {
    transactionHash: '0x11391317c3d5c073be4b53ee4029178a3678c6fda2eb9fb339c261b0cf5d84c6',
    transactionIndex: 0,
    blockHash: '0x04f220e7b9c23201a7015b0d728a8a03fb881624ed6d4b55a8cfb1039b0dbf47',
    blockNumber: 2,
    from: '0xb6afe7d0464be0142af02dfa431648716cbcd286',
    to: '0xa63adc1b50209191737266e748ea8d3f80631228',
    gasUsed: 21672,
    cumulativeGasUsed: 21672,
    contractAddress: null,
    logs: [],
    status: true,
    logsBloom: '0x00000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000',
    rawLogs: []
  },
  logs: []
}
truffle(ganache)>
```

List Items function

```
}
truffle(ganache)> instance.listItems()
[
  [
    'itemA',
    '10',
    '0x41',
    '0x0000000000000000000000000000000000000000',
    name: 'itemA',
    price: '10',
    status: '0x41',
    buyer: '0x0000000000000000000000000000000000000000'
  ],
  [
    'itemB',
    '30',
    '0x41',
    '0x0000000000000000000000000000000000000000',
    name: 'itemB',
    price: '30',
    status: '0x41',
    buyer: '0x0000000000000000000000000000000000000000'
  ],
  [
    'itemC',
    '20',
    '0x41',
    '0x0000000000000000000000000000000000000000',
    name: 'itemC',
    price: '20',
    status: '0x41',
    buyer: '0x0000000000000000000000000000000000000000'
  ]
]
truffle(ganache)>
```

BuyItem function called for ItemA and ethers being sent by account 1.

Item A's buyer address is changed to account 1's address and status to '0x50'.

```
truffle(ganache)> instance.buyItem('ItemA', {value:web3.utils.toWei('10','ether'), from:accounts[1]})
{
  tx: '0x8485b8d87c35bb94a0a9706f2038ddd14cda4f9dec1fad85458c03a1749fa7e9',
  receipt: {
    transactionHash: '0x8485b8d87c35bb94a0a9706f2038ddd14cda4f9dec1fad85458c03a1749fa7e9',
    transactionIndex: 0,
    blockHash: '0x2ac628ec710c6c30875c19fbe642cfe9dc85c81805d4dd933cc43a2d9890e158',
    blockNumber: 9,
    from: '0x71ccc17b1eee8bb4ad63878925a8e883a8493a2b',
    to: '0x6c07543a78ccb144ebdc94eee9b87b0b66613f0c',
    gasUsed: 33549,
    cumulativeGasUsed: 33549,
    contractAddress: null,
    logs: [],
    status: true,
    logsBloom: '0x0000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
00000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000',
    rawLogs: []
  },
  logs: []
}
truffle(ganache)> instance.listItems()
[
  [
    'itemA',
    '10',
    '0x50',
    '0x71ccC17B1eEe8bB4aD63878925A8E883a8493A2b',
    name: 'itemA',
    price: '10',
    status: '0x50',
    buyer: '0x71ccC17B1eEe8bB4aD63878925A8E883a8493A2b'
  ],
  [
    'itemB',
    '30',
    '0x41',
    '0x0000000000000000000000000000000000000000',
    name: 'itemB',
    price: '30',
    status: '0x41',
    buyer: '0x0000000000000000000000000000000000000000'
  ],
  [
    'itemC',
    '20',
```

Unsuccessful Workflow

Confirm Purchase function called with unsuccessful status

```
}
truffle(ganache)> instance.confirmPurchase('ItemA',false, {from:accounts[1]})
{
  tx: '0x3c1b64b1c7010193365a46f3e3df5401ed79322d424449b2c0efd7200435e49c',
  receipt: {
    transactionHash: '0x3c1b64b1c7010193365a46f3e3df5401ed79322d424449b2c0efd7200435e49c',
    transactionIndex: 0,
    blockHash: '0x5065ed8f87f0764c5bce9d9f97f08fba698b173274de8a5b68cb95c7dcd3d62a',
    blockNumber: 6,
    from: '0xf31942a3668a3faa903ab922b16d4fa40cca57ab',
    to: '0xa63adc1b50209191737266e748ea8d3f80631228',
    gasUsed: 21660,
    cumulativeGasUsed: 21660,
    contractAddress: null,
    logs: [],
    status: true,
    logsBloom: '0x000000000000000000000000000000000000000000000000000000000000000
00000000000000000000000000000000000000000000000000000000000000000000000000000
00000000000000000000000000000000000000000000000000000000000000000000000000000
    rawLogs: []
  },
  logs: []
```

Unsuccessful purchase changed the status of item to D, '0x44'.

```
truffle(ganache)> instance.confirmPurchase('ItemA',false, {from:accounts[1]})
{
  tx: '0xd3406bb7ddf2b5d087bc7ebe9a03e0f67f66399f66decedd75d48462b0e3b85c',
  receipt: {
    transactionHash: '0xd3406bb7ddf2b5d087bc7ebe9a03e0f67f66399f66decedd75d48462b0e3b85c',
    transactionIndex: 0,
    blockHash: '0xd2eb0789dc9fdab01ccaf778601c86fd2557d25f3c87a8cf3b677b0769b3995c',
    blockNumber: 32,
    from: '0x941881ecf1b4f724a68c5340bc72b9c8e08e9eb1',
    to: '0x36dadf8e2dd656c4a683fc764463b1312586c087',
    gasUsed: 29624,
    cumulativeGasUsed: 29624,
    contractAddress: null,
    logs: [],
    status: true,
    logsBloom: '0x000000000000000000000000000000000000000000000000000000000000000000000000
000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000',
    rawLogs: []
  },
  logs: []
}
truffle(ganache)> instance.listItems()
[
  [
    'itemA',
    '10',
    '0x44',
    '0x941881Ecf1B4f724a68C5340bC72B9C8E08e9EB1',
    name: 'itemA',
    price: '10',
    status: '0x44',
    buyer: '0x941881Ecf1B4f724a68C5340bC72B9C8E08e9EB1'
  ]
]
truffle(ganache)>
```

Handle dispute function changes status of itemA to '0x52'

```
truffle(ganache)> instance.handleDispute('ItemA','0x52',{from:accounts[2]})
{
  tx: '0x978cdd4bf7af98c1446f0039a00e191400fc9b2acea00b6c0a4d67b27db8fb6b',
  receipt: {
    transactionHash: '0x978cdd4bf7af98c1446f0039a00e191400fc9b2acea00b6c0a4d67b27db8fb6b',
    transactionIndex: 0,
    blockHash: '0x858f4a82ed537aabfb86618549597f25b01d1972b6423dbcc6ac76e12b2e42bd',
    blockNumber: 41,
    from: '0x4f4558791053009efccd61759687ebdffa0e1b22',
    to: '0x9ef571e9741b917842626f8c2a7dca9f7dc1d34a',
    gasUsed: 29625,
    cumulativeGasUsed: 29625,
    contractAddress: null,
    logs: [],
    status: true,
    logsBloom: '0x00000000000000000000000000000000000000000000000000000000000000000
000000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000000000000000000000000000000000000000000000000000000000000000000000000000000',
    rawLogs: []
  },
  logs: []
}
truffle(ganache)> instance.listItems()
[
  [
    'itemA',
    '10',
    '0x52',
    '0x941881Ecf1B4f724a68C5340bC72B9C8E08e9EB1',
    name: 'itemA',
    price: '10',
    status: '0x52',
    buyer: '0x941881Ecf1B4f724a68C5340bC72B9C8E08e9EB1'
  ]
]
truffle(ganache)>
```

Successful workflow

Confirm purchase with successful status changes item status to '0x43'.

```
truffle(ganache)> instance.confirmPurchase('ItemA',true, {from:accounts[1]})
{
  tx: '0xe72b19294c605db38d04af4f9711bcf4b6355ff1681861aad1c252273b40f591',
  receipt: {
    transactionHash: '0xe72b19294c605db38d04af4f9711bcf4b6355ff1681861aad1c252273b40f591',
    transactionIndex: 0,
    blockHash: '0xee80d5009d9f2e01a1ea4486bf62236a0bfa21baf5e3f462756ee2ee5bc646ff',
    blockNumber: 42,
    from: '0x941881ecf1b4f724a68c5340bc72b9c8e08e9eb1',
    to: '0x9ef571e9741b917842626f8c2a7dca9f7dc1d34a',
    gasUsed: 29636,
    cumulativeGasUsed: 29636,
    contractAddress: null,
    logs: [],
    status: true,
    logsBloom: '0x0000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000',
    rawLogs: []
  },
  logs: []
}
truffle(ganache)> instance.listItems()
[
  [
    'itemA',
    '10',
    '0x43',
    '0x941881Ecf1B4f724a68C5340bC72B9C8E08e9EB1',
    name: 'itemA',
    price: '10',
    status: '0x43',
    buyer: '0x941881Ecf1B4f724a68C5340bC72B9C8E08e9EB1'
  ]
]
truffle(ganache)>
```