

Código 1: solver.get_transaction_sequence()

Python

```
solver.get_transaction_sequence(state, constraints +  
state.world_state.constraints)
```

Dados de debug:

Unset

```
constraints = [UGT(2_gas, 2300),  
1271270613000041655817448348132275889066893754095 ==  
Concat(0,
```

```
    If(1_calldatasize <= 12, 0, 1_calldata[12]),  
    If(1_calldatasize <= 13, 0, 1_calldata[13]),  
    If(1_calldatasize <= 14, 0, 1_calldata[14]),  
    If(1_calldatasize <= 15, 0, 1_calldata[15]),  
    If(1_calldatasize <= 16, 0, 1_calldata[16]),  
    If(1_calldatasize <= 17, 0, 1_calldata[17]),  
    If(1_calldatasize <= 18, 0, 1_calldata[18]),  
    If(1_calldatasize <= 19, 0, 1_calldata[19]),  
    If(1_calldatasize <= 20, 0, 1_calldata[20]),  
    If(1_calldatasize <= 21, 0, 1_calldata[21]),  
    If(1_calldatasize <= 22, 0, 1_calldata[22]),  
    If(1_calldatasize <= 23, 0, 1_calldata[23]),  
    If(1_calldatasize <= 24, 0, 1_calldata[24]),  
    If(1_calldatasize <= 25, 0, 1_calldata[25]),  
    If(1_calldatasize <= 26, 0, 1_calldata[26]),  
    If(1_calldatasize <= 27, 0, 1_calldata[27]),  
    If(1_calldatasize <= 28, 0, 1_calldata[28]),  
    If(1_calldatasize <= 29, 0, 1_calldata[29]),  
    If(1_calldatasize <= 30, 0, 1_calldata[30]),  
    If(1_calldatasize <= 31, 0, 1_calldata[31]))]
```

```
state.world_state.constraints  
=
```

```
[Or(Not(ULE(balance[1004753105490295263244812946565948198177742958590],  
call_value1)),  
balance[1004753105490295263244812946565948198177742958590] ==  
call_value1), True, call_value1 == 0, 1_calldatasize == 4562, True,  
And(Or(1_calldatasize <= 11, 1_calldata[11] == 0),  
Or(1_calldatasize <= 10, 1_calldata[10] == 0),  
Or(1_calldatasize <= 9, 1_calldata[9] == 0),  
Or(1_calldatasize <= 8, 1_calldata[8] == 0),  
Or(1_calldatasize <= 7, 1_calldata[7] == 0)),
```

```

Or(1_calldatasize <= 6, 1_calldata[6] == 0),
Or(1_calldatasize <= 5, 1_calldata[5] == 0),
Or(1_calldatasize <= 4, 1_calldata[4] == 0),
Or(1_calldatasize <= 3, 1_calldata[3] == 0),
Or(1_calldatasize <= 2, 1_calldata[2] == 0),
Or(1_calldatasize <= 1, 1_calldata[1] == 0),
Or(1_calldatasize <= 0, 1_calldata[0] == 0)), Power(256, 0) == 1,
Power(256, 0) == 1, Or(Not(ULE(Store(Store(balance,
51421440056055728346017419001665401074216449311,

balance[51421440056055728346017419001665401074216449311] +
call_value1),
1004753105490295263244812946565948198177742958590,
balance[1004753105490295263244812946565948198177742958590]
+

1157920892373161954235709850086879078532699846656405640394575840079131296399
35*
call_value1)[sender_2],
call_value2)),
Store(Store(balance,
51421440056055728346017419001665401074216449311,
balance[51421440056055728346017419001665401074216449311] +
call_value1),
1004753105490295263244812946565948198177742958590,
balance[1004753105490295263244812946565948198177742958590] +

1157920892373161954235709850086879078532699846656405640394575840079131296399
35*
call_value1)[sender_2] ==
call_value2), Or(sender_2 ==
1004753105490295263244812946565948198177742958590,
sender_2 ==
1271270613000041655817448348132275889066893754095,
sender_2 ==
974334424887268612135789888477522013103955028650), ULE(4,
2_calldatasize), Not(ULE(2952712416,
Concat(If(2_calldatasize <= 0, 0, 2_calldata[0]),
If(2_calldatasize <= 1, 0, 2_calldata[1]),
If(2_calldatasize <= 2, 0, 2_calldata[2]),
If(2_calldatasize <= 3, 0, 2_calldata[3])))),
And(2_calldata[3] == 61,
Not(2_calldatasize <= 3),
2_calldata[2] == 181,
Not(2_calldatasize <= 2),
2_calldata[1] == 230,
Not(2_calldatasize <= 1),
2_calldata[0] == 33,

```

```

    Not(2_calldatasize <= 0)), call_value2 == 0, 32 <=
1157920892373161954235709850086879078532699846656405640394575840079131296399
32 +
2_calldatasize, And(Or(2_calldatasize <= 15, 2_calldata[15] == 0),
    Or(2_calldatasize <= 14, 2_calldata[14] == 0),
    Or(2_calldatasize <= 13, 2_calldata[13] == 0),
    Or(2_calldatasize <= 12, 2_calldata[12] == 0),
    Or(2_calldatasize <= 11, 2_calldata[11] == 0),
    Or(2_calldatasize <= 10, 2_calldata[10] == 0),
    Or(2_calldatasize <= 9, 2_calldata[9] == 0),
    Or(2_calldatasize <= 8, 2_calldata[8] == 0),
    Or(2_calldatasize <= 7, 2_calldata[7] == 0),
    Or(2_calldatasize <= 6, 2_calldata[6] == 0),
    Or(2_calldatasize <= 5, 2_calldata[5] == 0),
    Or(2_calldatasize <= 4, 2_calldata[4] == 0)), Not(And(Or(2_calldatasize
<= 35, 2_calldata[35] == 0),
    Or(2_calldatasize <= 34, 2_calldata[34] == 0),
    Or(2_calldatasize <= 33, 2_calldata[33] == 0),
    Or(2_calldatasize <= 32, 2_calldata[32] == 0),
    Or(2_calldatasize <= 31, 2_calldata[31] == 0),
    Or(2_calldatasize <= 30, 2_calldata[30] == 0),
    Or(2_calldatasize <= 29, 2_calldata[29] == 0),
    Or(2_calldatasize <= 28, 2_calldata[28] == 0),
    Or(2_calldatasize <= 27, 2_calldata[27] == 0),
    Or(2_calldatasize <= 26, 2_calldata[26] == 0),
    Or(2_calldatasize <= 25, 2_calldata[25] == 0),
    Or(2_calldatasize <= 24, 2_calldata[24] == 0),
    Or(2_calldatasize <= 23, 2_calldata[23] == 0),
    Or(2_calldatasize <= 22, 2_calldata[22] == 0),
    Or(2_calldatasize <= 21, 2_calldata[21] == 0),
    Or(2_calldatasize <= 20, 2_calldata[20] == 0),
    Or(2_calldatasize <= 19, 2_calldata[19] == 0),
    Or(2_calldatasize <= 18, 2_calldata[18] == 0),
    Or(2_calldatasize <= 17, 2_calldata[17] == 0),
    Or(2_calldatasize <= 16, 2_calldata[16] == 0))), Power(256, 0) == 1,
Extract(159, 0, sender_2) ==
1004753105490295263244812946565948198177742958590, Power(256, 0) == 1,
Not(2_extcodesize_Concat(0,
    If(1_calldatasize <= 12, 0, 1_calldata[12]),
    If(1_calldatasize <= 13, 0, 1_calldata[13]),
    If(1_calldatasize <= 14, 0, 1_calldata[14]),
    If(1_calldatasize <= 15, 0, 1_calldata[15]),
    If(1_calldatasize <= 16, 0, 1_calldata[16]),
    If(1_calldatasize <= 17, 0, 1_calldata[17]),
    If(1_calldatasize <= 18, 0, 1_calldata[18]),
    If(1_calldatasize <= 19, 0, 1_calldata[19]),
    If(1_calldatasize <= 20, 0, 1_calldata[20]),
    If(1_calldatasize <= 21, 0, 1_calldata[21]),

```

```

    If(1_calldata_size <= 22, 0, 1_calldata[22]),
    If(1_calldata_size <= 23, 0, 1_calldata[23]),
    If(1_calldata_size <= 24, 0, 1_calldata[24]),
    If(1_calldata_size <= 25, 0, 1_calldata[25]),
    If(1_calldata_size <= 26, 0, 1_calldata[26]),
    If(1_calldata_size <= 27, 0, 1_calldata[27]),
    If(1_calldata_size <= 28, 0, 1_calldata[28]),
    If(1_calldata_size <= 29, 0, 1_calldata[29]),
    If(1_calldata_size <= 30, 0, 1_calldata[30]),
    If(1_calldata_size <= 31, 0, 1_calldata[31])) ==
0)]

```

```
state =
```

```

<mythril.laser.ethereum.state.global_state.GlobalState object at
0x7f758b500770>

```

Fluxo de Execução:

1. A função recebe dois argumentos principais:
 - **state**: Um objeto `GlobalState` que representa o estado atual da execução.
 - **Uma soma de duas listas de constraints**:
 - **constraints**: Lista com restrições específicas da execução atual.
 - **state.world_state.constraints**: Lista com restrições do estado global.
2. O operador `+` aciona o método `__add__` da classe `Constraints`, levando ao **Código 2**.

Relação com Constraints:

- Este código é responsável por **juntar todas as restrições** que serão usadas pelo solver.
- As **constraints** incluem verificações de:
 - **Tamanho e conteúdo de calldata.**
 - **Valores de gas.**
 - **Balanços de contas.**
 - **Restrições de estado do contrato.**
 - **Validações de endereços.**

Código 2: Método `__add__`

Python

```
def __add__(self, constraints: List[Union[bool, Bool]]) ->
    "Constraints":
    constraints_list = self._get_smt_bool_list(constraints)
    constraints_list = super(Constraints,
self).__add__(constraints_list)
    return Constraints(constraint_list=constraints_list)
```

Dados de debug:

Unset

```
constraints_list =
[Or(Not(ULE(balance[1004753105490295263244812946565948198177742958590],
    call_value1)),
    balance[1004753105490295263244812946565948198177742958590] ==
    call_value1), True, call_value1 == 0, 1_calldatasize == 4562, True,
And(Or(1_calldatasize <= 11, 1_calldata[11] == 0),
    Or(1_calldatasize <= 10, 1_calldata[10] == 0),
    Or(1_calldatasize <= 9, 1_calldata[9] == 0),
    Or(1_calldatasize <= 8, 1_calldata[8] == 0),
    Or(1_calldatasize <= 7, 1_calldata[7] == 0),
    Or(1_calldatasize <= 6, 1_calldata[6] == 0),
    Or(1_calldatasize <= 5, 1_calldata[5] == 0),
    Or(1_calldatasize <= 4, 1_calldata[4] == 0),
    Or(1_calldatasize <= 3, 1_calldata[3] == 0),
    Or(1_calldatasize <= 2, 1_calldata[2] == 0),
    Or(1_calldatasize <= 1, 1_calldata[1] == 0),
    Or(1_calldatasize <= 0, 1_calldata[0] == 0)), Power(256, 0) == 1,
Power(256, 0) == 1, Or(Not(ULE(Store(Store(balance,
    51421440056055728346017419001665401074216449311,

balance[51421440056055728346017419001665401074216449311] +
    call_value1),
    1004753105490295263244812946565948198177742958590,
    balance[1004753105490295263244812946565948198177742958590]
+

1157920892373161954235709850086879078532699846656405640394575840079131296399
35*
    call_value1)[sender_2],
    call_value2)),
```

```

Store(Store(balance,
            51421440056055728346017419001665401074216449311,
            balance[51421440056055728346017419001665401074216449311] +
            call_value1),
    1004753105490295263244812946565948198177742958590,
    balance[1004753105490295263244812946565948198177742958590] +

1157920892373161954235709850086879078532699846656405640394575840079131296399
35*
    call_value1)[sender_2] ==
call_value2), Or(sender_2 ==
1004753105490295263244812946565948198177742958590,
sender_2 ==
1271270613000041655817448348132275889066893754095,
sender_2 ==
974334424887268612135789888477522013103955028650), ULE(4,
2_calldatasize), Not(ULE(2952712416,
    Concat(If(2_calldatasize <= 0, 0, 2_calldata[0]),
        If(2_calldatasize <= 1, 0, 2_calldata[1]),
        If(2_calldatasize <= 2, 0, 2_calldata[2]),
        If(2_calldatasize <= 3, 0, 2_calldata[3])))),
And(2_calldata[3] == 61,
    Not(2_calldatasize <= 3),
    2_calldata[2] == 181,
    Not(2_calldatasize <= 2),
    2_calldata[1] == 230,
    Not(2_calldatasize <= 1),
    2_calldata[0] == 33,
    Not(2_calldatasize <= 0)), call_value2 == 0, 32 <=
1157920892373161954235709850086879078532699846656405640394575840079131296399
32 +
2_calldatasize, And(Or(2_calldatasize <= 15, 2_calldata[15] == 0),
    Or(2_calldatasize <= 14, 2_calldata[14] == 0),
    Or(2_calldatasize <= 13, 2_calldata[13] == 0),
    Or(2_calldatasize <= 12, 2_calldata[12] == 0),
    Or(2_calldatasize <= 11, 2_calldata[11] == 0),
    Or(2_calldatasize <= 10, 2_calldata[10] == 0),
    Or(2_calldatasize <= 9, 2_calldata[9] == 0),
    Or(2_calldatasize <= 8, 2_calldata[8] == 0),
    Or(2_calldatasize <= 7, 2_calldata[7] == 0),
    Or(2_calldatasize <= 6, 2_calldata[6] == 0),
    Or(2_calldatasize <= 5, 2_calldata[5] == 0),
    Or(2_calldatasize <= 4, 2_calldata[4] == 0)), Not(And(Or(2_calldatasize
<= 35, 2_calldata[35] == 0),
    Or(2_calldatasize <= 34, 2_calldata[34] == 0),
    Or(2_calldatasize <= 33, 2_calldata[33] == 0),
    Or(2_calldatasize <= 32, 2_calldata[32] == 0),
    Or(2_calldatasize <= 31, 2_calldata[31] == 0),

```

```

Or(2_calldatasize <= 30, 2_calldata[30] == 0),
Or(2_calldatasize <= 29, 2_calldata[29] == 0),
Or(2_calldatasize <= 28, 2_calldata[28] == 0),
Or(2_calldatasize <= 27, 2_calldata[27] == 0),
Or(2_calldatasize <= 26, 2_calldata[26] == 0),
Or(2_calldatasize <= 25, 2_calldata[25] == 0),
Or(2_calldatasize <= 24, 2_calldata[24] == 0),
Or(2_calldatasize <= 23, 2_calldata[23] == 0),
Or(2_calldatasize <= 22, 2_calldata[22] == 0),
Or(2_calldatasize <= 21, 2_calldata[21] == 0),
Or(2_calldatasize <= 20, 2_calldata[20] == 0),
Or(2_calldatasize <= 19, 2_calldata[19] == 0),
Or(2_calldatasize <= 18, 2_calldata[18] == 0),
Or(2_calldatasize <= 17, 2_calldata[17] == 0),
Or(2_calldatasize <= 16, 2_calldata[16] == 0))), Power(256, 0) == 1,
Extract(159, 0, sender_2) ==
1004753105490295263244812946565948198177742958590, Power(256, 0) == 1,
Not(2_extcodesize_Concat(0,
  If(1_calldatasize <= 12, 0, 1_calldata[12]),
  If(1_calldatasize <= 13, 0, 1_calldata[13]),
  If(1_calldatasize <= 14, 0, 1_calldata[14]),
  If(1_calldatasize <= 15, 0, 1_calldata[15]),
  If(1_calldatasize <= 16, 0, 1_calldata[16]),
  If(1_calldatasize <= 17, 0, 1_calldata[17]),
  If(1_calldatasize <= 18, 0, 1_calldata[18]),
  If(1_calldatasize <= 19, 0, 1_calldata[19]),
  If(1_calldatasize <= 20, 0, 1_calldata[20]),
  If(1_calldatasize <= 21, 0, 1_calldata[21]),
  If(1_calldatasize <= 22, 0, 1_calldata[22]),
  If(1_calldatasize <= 23, 0, 1_calldata[23]),
  If(1_calldatasize <= 24, 0, 1_calldata[24]),
  If(1_calldatasize <= 25, 0, 1_calldata[25]),
  If(1_calldatasize <= 26, 0, 1_calldata[26]),
  If(1_calldatasize <= 27, 0, 1_calldata[27]),
  If(1_calldatasize <= 28, 0, 1_calldata[28]),
  If(1_calldatasize <= 29, 0, 1_calldata[29]),
  If(1_calldatasize <= 30, 0, 1_calldata[30]),
  If(1_calldatasize <= 31, 0, 1_calldata[31])) ==
0)]

```

constraints_list

na segunda atribuição:

```

[UGT(2_gas, 2300), 1271270613000041655817448348132275889066893754095 ==
Concat(0,
  If(1_calldatasize <= 12, 0, 1_calldata[12]),
  If(1_calldatasize <= 13, 0, 1_calldata[13]),
  If(1_calldatasize <= 14, 0, 1_calldata[14]),
  If(1_calldatasize <= 15, 0, 1_calldata[15]),
  If(1_calldatasize <= 16, 0, 1_calldata[16]),

```

```

        If(1_calldatasize <= 17, 0, 1_calldata[17]),
        If(1_calldatasize <= 18, 0, 1_calldata[18]),
        If(1_calldatasize <= 19, 0, 1_calldata[19]),
        If(1_calldatasize <= 20, 0, 1_calldata[20]),
        If(1_calldatasize <= 21, 0, 1_calldata[21]),
        If(1_calldatasize <= 22, 0, 1_calldata[22]),
        If(1_calldatasize <= 23, 0, 1_calldata[23]),
        If(1_calldatasize <= 24, 0, 1_calldata[24]),
        If(1_calldatasize <= 25, 0, 1_calldata[25]),
        If(1_calldatasize <= 26, 0, 1_calldata[26]),
        If(1_calldatasize <= 27, 0, 1_calldata[27]),
        If(1_calldatasize <= 28, 0, 1_calldata[28]),
        If(1_calldatasize <= 29, 0, 1_calldata[29]),
        If(1_calldatasize <= 30, 0, 1_calldata[30]),
        If(1_calldatasize <= 31, 0, 1_calldata[31])),
Or(Not(ULE(balance[1004753105490295263244812946565948198177742958590],
        call_value1)),
    balance[1004753105490295263244812946565948198177742958590] ==
    call_value1), True, call_value1 == 0, 1_calldatasize == 4562, True,
And(Or(1_calldatasize <= 11, 1_calldata[11] == 0),
    Or(1_calldatasize <= 10, 1_calldata[10] == 0),
    Or(1_calldatasize <= 9, 1_calldata[9] == 0),
    Or(1_calldatasize <= 8, 1_calldata[8] == 0),
    Or(1_calldatasize <= 7, 1_calldata[7] == 0),
    Or(1_calldatasize <= 6, 1_calldata[6] == 0),
    Or(1_calldatasize <= 5, 1_calldata[5] == 0),
    Or(1_calldatasize <= 4, 1_calldata[4] == 0),
    Or(1_calldatasize <= 3, 1_calldata[3] == 0),
    Or(1_calldatasize <= 2, 1_calldata[2] == 0),
    Or(1_calldatasize <= 1, 1_calldata[1] == 0),
    Or(1_calldatasize <= 0, 1_calldata[0] == 0)), Power(256, 0) == 1,
Power(256, 0) == 1, Or(Not(ULE(Store(Store(balance,
        51421440056055728346017419001665401074216449311,

balance[51421440056055728346017419001665401074216449311] +
        call_value1),
        1004753105490295263244812946565948198177742958590,
        balance[1004753105490295263244812946565948198177742958590]
+
1157920892373161954235709850086879078532699846656405640394575840079131296399
35*
        call_value1)[sender_2],
        call_value2)),
Store(Store(balance,
        51421440056055728346017419001665401074216449311,
        balance[51421440056055728346017419001665401074216449311] +
        call_value1),

```



```

1004753105490295263244812946565948198177742958590,
balance[1004753105490295263244812946565948198177742958590] +

1157920892373161954235709850086879078532699846656405640394575840079131296399
35*
    call_value1)[sender_2] ==
call_value2), Or(sender_2 ==
1004753105490295263244812946565948198177742958590,
sender_2 ==
1271270613000041655817448348132275889066893754095,
sender_2 ==
974334424887268612135789888477522013103955028650), ULE(4,
2_calldatasize), Not(ULE(2952712416,
Concat(If(2_calldatasize <= 0, 0, 2_calldata[0]),
If(2_calldatasize <= 1, 0, 2_calldata[1]),
If(2_calldatasize <= 2, 0, 2_calldata[2]),
If(2_calldatasize <= 3, 0, 2_calldata[3])))),
And(2_calldata[3] == 61,
Not(2_calldatasize <= 3),
2_calldata[2] == 181,
Not(2_calldatasize <= 2),
2_calldata[1] == 230,
Not(2_calldatasize <= 1),
2_calldata[0] == 33,
Not(2_calldatasize <= 0)), call_value2 == 0, 32 <=
1157920892373161954235709850086879078532699846656405640394575840079131296399
32 +
2_calldatasize, And(Or(2_calldatasize <= 15, 2_calldata[15] == 0),
Or(2_calldatasize <= 14, 2_calldata[14] == 0),
Or(2_calldatasize <= 13, 2_calldata[13] == 0),
Or(2_calldatasize <= 12, 2_calldata[12] == 0),
Or(2_calldatasize <= 11, 2_calldata[11] == 0),
Or(2_calldatasize <= 10, 2_calldata[10] == 0),
Or(2_calldatasize <= 9, 2_calldata[9] == 0),
Or(2_calldatasize <= 8, 2_calldata[8] == 0),
Or(2_calldatasize <= 7, 2_calldata[7] == 0),
Or(2_calldatasize <= 6, 2_calldata[6] == 0),
Or(2_calldatasize <= 5, 2_calldata[5] == 0),
Or(2_calldatasize <= 4, 2_calldata[4] == 0)), Not(And(Or(2_calldatasize
<= 35, 2_calldata[35] == 0),
Or(2_calldatasize <= 34, 2_calldata[34] == 0),
Or(2_calldatasize <= 33, 2_calldata[33] == 0),
Or(2_calldatasize <= 32, 2_calldata[32] == 0),
Or(2_calldatasize <= 31, 2_calldata[31] == 0),
Or(2_calldatasize <= 30, 2_calldata[30] == 0),
Or(2_calldatasize <= 29, 2_calldata[29] == 0),
Or(2_calldatasize <= 28, 2_calldata[28] == 0),
Or(2_calldatasize <= 27, 2_calldata[27] == 0),

```

```

Or(2_calldatasize <= 26, 2_calldata[26] == 0),
Or(2_calldatasize <= 25, 2_calldata[25] == 0),
Or(2_calldatasize <= 24, 2_calldata[24] == 0),
Or(2_calldatasize <= 23, 2_calldata[23] == 0),
Or(2_calldatasize <= 22, 2_calldata[22] == 0),
Or(2_calldatasize <= 21, 2_calldata[21] == 0),
Or(2_calldatasize <= 20, 2_calldata[20] == 0),
Or(2_calldatasize <= 19, 2_calldata[19] == 0),
Or(2_calldatasize <= 18, 2_calldata[18] == 0),
Or(2_calldatasize <= 17, 2_calldata[17] == 0),
Or(2_calldatasize <= 16, 2_calldata[16] == 0))), Power(256, 0) == 1,
Extract(159, 0, sender_2) ==
1004753105490295263244812946565948198177742958590, Power(256, 0) == 1,
Not(2_extcodesize_Concat(0,
    If(1_calldatasize <= 12, 0, 1_calldata[12]),
    If(1_calldatasize <= 13, 0, 1_calldata[13]),
    If(1_calldatasize <= 14, 0, 1_calldata[14]),
    If(1_calldatasize <= 15, 0, 1_calldata[15]),
    If(1_calldatasize <= 16, 0, 1_calldata[16]),
    If(1_calldatasize <= 17, 0, 1_calldata[17]),
    If(1_calldatasize <= 18, 0, 1_calldata[18]),
    If(1_calldatasize <= 19, 0, 1_calldata[19]),
    If(1_calldatasize <= 20, 0, 1_calldata[20]),
    If(1_calldatasize <= 21, 0, 1_calldata[21]),
    If(1_calldatasize <= 22, 0, 1_calldata[22]),
    If(1_calldatasize <= 23, 0, 1_calldata[23]),
    If(1_calldatasize <= 24, 0, 1_calldata[24]),
    If(1_calldatasize <= 25, 0, 1_calldata[25]),
    If(1_calldatasize <= 26, 0, 1_calldata[26]),
    If(1_calldatasize <= 27, 0, 1_calldata[27]),
    If(1_calldatasize <= 28, 0, 1_calldata[28]),
    If(1_calldatasize <= 29, 0, 1_calldata[29]),
    If(1_calldatasize <= 30, 0, 1_calldata[30]),
    If(1_calldatasize <= 31, 0, 1_calldata[31])) ==
0)]

```

Fluxo de Execução:

1. Recebe uma lista de **constraints** para adicionar.
2. Chama **_get_smt_bool_list** para converter as constraints para o formato SMT (Código 3).
3. Usa a implementação base de **list.__add__** para concatenar as listas.
4. Cria e retorna um novo objeto **Constraints** com a lista concatenada.

Código 3: Método `_get_smt_bool_list`

```
Python
@staticmethod
def _get_smt_bool_list(constraints: Iterable[Union[bool,
Bool]]) -> List[Bool]:
    return [
        (constraint if isinstance(constraint, Bool) else
symbol_factory.Bool(constraint))
        for constraint in constraints
    ]
```

Fluxo de Execução:

1. Recebe uma lista de **constraints** que podem ser:
 - Booleanos Python.
 - Objetos **Bool** do SMT.
 2. Para cada **constraint**:
 - **Se já for um Bool SMT**, mantém como está.
 - **Se for um booleano Python**, converte para **Bool** SMT usando **symbol_factory**.
-

Código 4: Classe **Constraints**

```
Python
class Constraints(list):
    def __init__(self, constraint_list: Optional[List[Bool]] =
None) -> None:
        constraint_list = constraint_list or []
        constraint_list =
self._get_smt_bool_list(constraint_list)
        super(Constraints, self).__init__(constraint_list)
```

Fluxo de Execução:

1. Inicializa uma nova lista de **constraints**.
 2. Se nenhuma lista for fornecida, usa uma lista vazia.
 3. Converte todas as **constraints** para o formato SMT.
 4. Inicializa a classe base **list** com as **constraints** convertidas.
-

Propósito Final:

Todo este fluxo serve para:

1. **Coletar todas as constraints relevantes** do estado atual e global.
2. **Garantir que todas as constraints estejam no formato correto** (Bool SMT).
3. **Combinar todas as constraints em uma única lista consistente.**
4. Fornecer estas **constraints** para o solver SMT que irá:
 - Verificar se existe alguma sequência de transações que **satisfaz todas as constraints.**
 - **Identificar possíveis vulnerabilidades** no contrato.
 - **Gerar casos de teste** que demonstrem as vulnerabilidades encontradas.