

Homework 8 (Vanderbei Exercise 11.2)

In [1]:

```
import sys
!{sys.executable} -m pip install pulp
```

Requirement already satisfied: pulp in c:\users\mntakim\appdata\local\programs\python\python38-32\lib\site-packages (2.4)
 Requirement already satisfied: amply>=0.1.2 in c:\users\mntakim\appdata\local\programs\python\python38-32\lib\site-packages (from pulp) (0.1.4)
 Requirement already satisfied: pyparsing in c:\users\mntakim\appdata\local\programs\python\python38-32\lib\site-packages (from amply>=0.1.2->pulp) (2.4.7)
 Requirement already satisfied: docutils>=0.3 in c:\users\mntakim\appdata\local\programs\python\python38-32\lib\site-packages (from amply>=0.1.2->pulp) (0.17.1)

In [2]:

```
import pulp
from pulp import *
```

In [3]:

```
"""
Integer Game Problem

Author: Muntakim Rahman 2021
"""
```

Out[3]: '\nInteger Game Problem\n\nAuthor: Muntakim Rahman 2021\n'

Textbook Problem

11.2 Players A and B each pick a number between 1 and 100. The game is a draw if both players pick the same number. Otherwise, the player who picks the smaller number wins unless that smaller number is one less than the opponent's number, in which case the opponent wins. Find the optimal strategy for this game.

Integer Game Problem

Let $1 \leq i, j \leq 100$ denote the choices of *Player A* and *Player B* respectively.

</br>

Considering *Player A* to be the *Column* player and *Player B* to be the *Row* player :

Let $P = a_{ij}$ represent the payoff matrix for *Player A*.

where

$$a_{ij} = \begin{cases} 0 & \text{if } i = j \\ 1 & \text{if } i = j - 1 \\ -1 & \text{if } i < j - 1 \\ -1 & \text{if } i = j + 1 \\ 1 & \text{if } i > j + 1 \end{cases}$$

i.e.

...	where $j = 1$	2	3	4	5	...	96	97	98	99	100
where $i = 1$	0	1	-1	-1	-1	...	-1	-1	-1	-1	-1
2	-1	0	1	-1	-1	...	-1	-1	-1	-1	-1
3	1	-1	0	1	-1	...	-1	-1	-1	-1	-1
4	1	1	-1	0	1	...	-1	-1	-1	-1	-1
5	1	1	1	-1	0	...	-1	-1	-1	-1	-1
...											
96	1	1	1	1	1	...	0	1	-1	-1	-1
97	1	1	1	1	1	...	-1	0	1	-1	-1
98	1	1	1	1	1	...	1	-1	0	1	-1
99	1	1	1	1	1	...	1	1	-1	0	1
100	1	1	1	1	1	...	1	1	1	-1	0

</br>

Let *Player A*'s strategy be given by the probability x_j , and optimal expected payoff be given by E :

Linear Programming Problem

Maximize E

Subject to $E - \sum_{j=1}^{100} a_{ij} * x_j \leq 0 \quad i \leq 1 \dots 100$

$x_j \geq 0 \quad j \leq 1 \dots 100$

$\sum_{j=1}^{100} x_j \geq 1$

```
In [4]: MAX = 100
        MIN = 1
```

```
In [5]: strategy_probability = {}

        for j in range(MIN, MAX + 1) :
            strategy_probability[j] = LpVariable(name = 'x_' + str(j), lowBound = 0, cat = LpCo

        optimal_expected_payoff = LpVariable(name = 'E', cat = LpContinuous)
```

```
In [6]: LP_Prob = LpProblem(name = 'Integer_Game_Problem', sense = LpMaximize)
```

```
# The Objective Function is Added to 'LP_Prob' First.
LP_Prob += optimal_expected_payoff, 'Objective_Function'
```

```
In [7]: # The Constraints are Added to 'LP_Prob'
for i in range (MIN, MAX + 1) :
    current_expected_payoff = 0
    for j in range(MIN, MAX + 1) :
        # a is Assigned based on the Following Cases.
        if (i == j) :
            a = 0
        elif (i == (j - 1) or i > (j + 1)) :
            a = 1
        elif (i == (j + 1) or i < (j - 1)) :
            a = -1
        current_expected_payoff += a*strategy_probability[j]

LP_Prob += optimal_expected_payoff - lpSum(current_expected_payoff) <= 0, f'Payoff_
LP_Prob += lpSum([strategy_probability[j] for j in range(MIN, MAX + 1)]) == 1, f'Pr
LP_Prob += strategy_probability[i] >= 0, f'LowBound_{i}'
```

```
In [8]: print(LP_Prob)
```

Integer_Game_Problem:

MAXIMIZE

1*E + 0

SUBJECT TO

Payoff_Difference_1: E + x_10 + x_100 + x_11 + x_12 + x_13 + x_14 + x_15
+ x_16 + x_17 + x_18 + x_19 - x_2 + x_20 + x_21 + x_22 + x_23 + x_24 + x_25
+ x_26 + x_27 + x_28 + x_29 + x_3 + x_30 + x_31 + x_32 + x_33 + x_34 + x_35
+ x_36 + x_37 + x_38 + x_39 + x_4 + x_40 + x_41 + x_42 + x_43 + x_44 + x_45
+ x_46 + x_47 + x_48 + x_49 + x_5 + x_50 + x_51 + x_52 + x_53 + x_54 + x_55
+ x_56 + x_57 + x_58 + x_59 + x_6 + x_60 + x_61 + x_62 + x_63 + x_64 + x_65
+ x_66 + x_67 + x_68 + x_69 + x_7 + x_70 + x_71 + x_72 + x_73 + x_74 + x_75
+ x_76 + x_77 + x_78 + x_79 + x_8 + x_80 + x_81 + x_82 + x_83 + x_84 + x_85
+ x_86 + x_87 + x_88 + x_89 + x_9 + x_90 + x_91 + x_92 + x_93 + x_94 + x_95
+ x_96 + x_97 + x_98 + x_99 <= 0

Probability_Simplex_1: x_1 + x_10 + x_100 + x_11 + x_12 + x_13 + x_14 + x_15
+ x_16 + x_17 + x_18 + x_19 + x_2 + x_20 + x_21 + x_22 + x_23 + x_24 + x_25
+ x_26 + x_27 + x_28 + x_29 + x_3 + x_30 + x_31 + x_32 + x_33 + x_34 + x_35
+ x_36 + x_37 + x_38 + x_39 + x_4 + x_40 + x_41 + x_42 + x_43 + x_44 + x_45
+ x_46 + x_47 + x_48 + x_49 + x_5 + x_50 + x_51 + x_52 + x_53 + x_54 + x_55
+ x_56 + x_57 + x_58 + x_59 + x_6 + x_60 + x_61 + x_62 + x_63 + x_64 + x_65
+ x_66 + x_67 + x_68 + x_69 + x_7 + x_70 + x_71 + x_72 + x_73 + x_74 + x_75
+ x_76 + x_77 + x_78 + x_79 + x_8 + x_80 + x_81 + x_82 + x_83 + x_84 + x_85
+ x_86 + x_87 + x_88 + x_89 + x_9 + x_90 + x_91 + x_92 + x_93 + x_94 + x_95
+ x_96 + x_97 + x_98 + x_99 = 1

LowBound_1: x_1 >= 0

Payoff_Difference_2: E + x_1 + x_10 + x_100 + x_11 + x_12 + x_13 + x_14 + x_15
+ x_16 + x_17 + x_18 + x_19 + x_20 + x_21 + x_22 + x_23 + x_24 + x_25 + x_26
+ x_27 + x_28 + x_29 - x_3 + x_30 + x_31 + x_32 + x_33 + x_34 + x_35 + x_36
+ x_37 + x_38 + x_39 + x_4 + x_40 + x_41 + x_42 + x_43 + x_44 + x_45 + x_46
+ x_47 + x_48 + x_49 + x_5 + x_50 + x_51 + x_52 + x_53 + x_54 + x_55 + x_56
+ x_57 + x_58 + x_59 + x_6 + x_60 + x_61 + x_62 + x_63 + x_64 + x_65 + x_66
+ x_67 + x_68 + x_69 + x_7 + x_70 + x_71 + x_72 + x_73 + x_74 + x_75 + x_76
+ x_77 + x_78 + x_79 + x_8 + x_80 + x_81 + x_82 + x_83 + x_84 + x_85 + x_86
+ x_87 + x_88 + x_89 + x_9 + x_90 + x_91 + x_92 + x_93 + x_94 + x_95 + x_96

$$\begin{aligned} &+ x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ &+ x_{46} + x_{47} + x_{48} + x_{49} + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} + x_{56} \\ &+ x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} \\ &+ x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} \\ &+ x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} \\ &+ x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} \\ &+ x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} & \text{Probability_Simplex_5: } x_{_1} + x_{_10} + x_{_100} + x_{_11} + x_{_12} + x_{_13} + x_{_14} + x_{_15} \\ & + x_{_16} + x_{_17} + x_{_18} + x_{_19} + x_{_2} + x_{_20} + x_{_21} + x_{_22} + x_{_23} + x_{_24} + x_{_25} \\ & + x_{_26} + x_{_27} + x_{_28} + x_{_29} + x_{_3} + x_{_30} + x_{_31} + x_{_32} + x_{_33} + x_{_34} + x_{_35} \\ & + x_{_36} + x_{_37} + x_{_38} + x_{_39} + x_{_4} + x_{_40} + x_{_41} + x_{_42} + x_{_43} + x_{_44} + x_{_45} \\ & + x_{_46} + x_{_47} + x_{_48} + x_{_49} + x_{_5} + x_{_50} + x_{_51} + x_{_52} + x_{_53} + x_{_54} + x_{_55} \\ & + x_{_56} + x_{_57} + x_{_58} + x_{_59} + x_{_6} + x_{_60} + x_{_61} + x_{_62} + x_{_63} + x_{_64} + x_{_65} \\ & + x_{_66} + x_{_67} + x_{_68} + x_{_69} + x_{_7} + x_{_70} + x_{_71} + x_{_72} + x_{_73} + x_{_74} + x_{_75} \\ & + x_{_76} + x_{_77} + x_{_78} + x_{_79} + x_{_8} + x_{_80} + x_{_81} + x_{_82} + x_{_83} + x_{_84} + x_{_85} \\ & + x_{_86} + x_{_87} + x_{_88} + x_{_89} + x_{_9} + x_{_90} + x_{_91} + x_{_92} + x_{_93} + x_{_94} + x_{_95} \\ & + x_{_96} + x_{_97} + x_{_98} + x_{_99} = 1 \end{aligned}$$

LowBound_5: $x_5 \geq 0$

$$\begin{aligned} \text{Payoff_Difference_6: } & E - x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} - x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} \\ & + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} \\ & + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} \\ & + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} \\ & + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} & \text{Probability_Simplex_6: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

LowBound_6: $x_6 \geq 0$

$$\begin{aligned} \text{Payoff_Difference_7: } & E - x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} - x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} \\ & + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} \\ & + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} \\ & + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} & \text{Probability_Simplex7: } x_{_1} + x_{_10} + x_{_100} + x_{_11} + x_{_12} + x_{_13} + x_{_14} + x_{_15} \\ & + x_{_16} + x_{_17} + x_{_18} + x_{_19} + x_{_2} + x_{_20} + x_{_21} + x_{_22} + x_{_23} + x_{_24} + x_{_25} \\ & + x_{_26} + x_{_27} + x_{_28} + x_{_29} + x_{_3} + x_{_30} + x_{_31} + x_{_32} + x_{_33} + x_{_34} + x_{_35} \\ & + x_{_36} + x_{_37} + x_{_38} + x_{_39} + x_{_4} + x_{_40} + x_{_41} + x_{_42} + x_{_43} + x_{_44} + x_{_45} \\ & + x_{_46} + x_{_47} + x_{_48} + x_{_49} + x_{_5} + x_{_50} + x_{_51} + x_{_52} + x_{_53} + x_{_54} + x_{_55} \\ & + x_{_56} + x_{_57} + x_{_58} + x_{_59} + x_{_6} + x_{_60} + x_{_61} + x_{_62} + x_{_63} + x_{_64} + x_{_65} \\ & + x_{_66} + x_{_67} + x_{_68} + x_{_69} + x_{_7} + x_{_70} + x_{_71} + x_{_72} + x_{_73} + x_{_74} + x_{_75} \\ & + x_{_76} + x_{_77} + x_{_78} + x_{_79} + x_{_8} + x_{_80} + x_{_81} + x_{_82} + x_{_83} + x_{_84} + x_{_85} \end{aligned}$$

$$+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1$$

$$\text{LowBound}_7: x_7 \geq 0$$

$$\begin{aligned} \text{Payoff_Difference}_8: E - x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} - x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} \\ + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} \\ + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex}_8: x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

$$\text{LowBound}_8: x_8 \geq 0$$

$$\begin{aligned} \text{Payoff_Difference}_9: E - x_1 - x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} - x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} \\ + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex}_9: x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

$$\text{LowBound}_9: x_9 \geq 0$$

$$\begin{aligned} \text{Payoff_Difference}_{10}: E - x_1 + x_{100} - x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} - x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\text{Probability_Simplex}_{10}: x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$$

$$\begin{aligned} &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ &+ x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

LowBound 10: $x \cdot 10 \geq 0$

$$\begin{aligned} \text{Payoff_Difference_11: } & E - x_{-1} + x_{-10} + x_{-100} - x_{-12} + x_{-13} + x_{-14} + x_{-15} \\ & + x_{-16} + x_{-17} + x_{-18} + x_{-19} - x_{-2} + x_{-20} + x_{-21} + x_{-22} + x_{-23} + x_{-24} + x_{-25} \\ & + x_{-26} + x_{-27} + x_{-28} + x_{-29} - x_{-3} + x_{-30} + x_{-31} + x_{-32} + x_{-33} + x_{-34} + x_{-35} \\ & + x_{-36} + x_{-37} + x_{-38} + x_{-39} - x_{-4} + x_{-40} + x_{-41} + x_{-42} + x_{-43} + x_{-44} + x_{-45} \\ & + x_{-46} + x_{-47} + x_{-48} + x_{-49} - x_{-5} + x_{-50} + x_{-51} + x_{-52} + x_{-53} + x_{-54} + x_{-55} \\ & + x_{-56} + x_{-57} + x_{-58} + x_{-59} - x_{-6} + x_{-60} + x_{-61} + x_{-62} + x_{-63} + x_{-64} + x_{-65} \\ & + x_{-66} + x_{-67} + x_{-68} + x_{-69} - x_{-7} + x_{-70} + x_{-71} + x_{-72} + x_{-73} + x_{-74} + x_{-75} \\ & + x_{-76} + x_{-77} + x_{-78} + x_{-79} - x_{-8} + x_{-80} + x_{-81} + x_{-82} + x_{-83} + x_{-84} + x_{-85} \\ & + x_{-86} + x_{-87} + x_{-88} + x_{-89} - x_{-9} + x_{-90} + x_{-91} + x_{-92} + x_{-93} + x_{-94} + x_{-95} \\ & + x_{-96} + x_{-97} + x_{-98} + x_{-99} \leq 0 \end{aligned}$$

$$\begin{aligned} & \text{Probability_Simplex}_{11}: x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

LowBound 11: $x_{11} \geq 0$

$$\begin{aligned} \text{Payoff_Difference_12: } & E - x_{-1} - x_{-10} + x_{-100} + x_{-11} - x_{-13} + x_{-14} + x_{-15} \\ & + x_{-16} + x_{-17} + x_{-18} + x_{-19} - x_{-2} + x_{-20} + x_{-21} + x_{-22} + x_{-23} + x_{-24} + x_{-25} \\ & + x_{-26} + x_{-27} + x_{-28} + x_{-29} - x_{-3} + x_{-30} + x_{-31} + x_{-32} + x_{-33} + x_{-34} + x_{-35} \\ & + x_{-36} + x_{-37} + x_{-38} + x_{-39} - x_{-4} + x_{-40} + x_{-41} + x_{-42} + x_{-43} + x_{-44} + x_{-45} \\ & + x_{-46} + x_{-47} + x_{-48} + x_{-49} - x_{-5} + x_{-50} + x_{-51} + x_{-52} + x_{-53} + x_{-54} + x_{-55} \\ & + x_{-56} + x_{-57} + x_{-58} + x_{-59} - x_{-6} + x_{-60} + x_{-61} + x_{-62} + x_{-63} + x_{-64} + x_{-65} \\ & + x_{-66} + x_{-67} + x_{-68} + x_{-69} - x_{-7} + x_{-70} + x_{-71} + x_{-72} + x_{-73} + x_{-74} + x_{-75} \\ & + x_{-76} + x_{-77} + x_{-78} + x_{-79} - x_{-8} + x_{-80} + x_{-81} + x_{-82} + x_{-83} + x_{-84} + x_{-85} \\ & + x_{-86} + x_{-87} + x_{-88} + x_{-89} - x_{-9} + x_{-90} + x_{-91} + x_{-92} + x_{-93} + x_{-94} + x_{-95} \\ & + x_{-96} + x_{-97} + x_{-98} + x_{-99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex}_{12}: & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

LowBound 12: $x_{12} \geq 0$

$$\begin{aligned} \text{Payoff_Difference_13: } & E - x_1 - x_{10} + x_{100} - x_{11} + x_{12} - x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} - x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \end{aligned}$$

```
+ x_56 + x_57 + x_58 + x_59 - x_6 + x_60 + x_61 + x_62 + x_63 + x_64 + x_65
+ x_66 + x_67 + x_68 + x_69 - x_7 + x_70 + x_71 + x_72 + x_73 + x_74 + x_75
+ x_76 + x_77 + x_78 + x_79 - x_8 + x_80 + x_81 + x_82 + x_83 + x_84 + x_85
+ x_86 + x_87 + x_88 + x_89 - x_9 + x_90 + x_91 + x_92 + x_93 + x_94 + x_95
+ x_96 + x_97 + x_98 + x_99 <= 0
```

$$\begin{aligned} & \text{Probability_Simplex}_{13}: x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

LowBound_13: $x_{13} \geq 0$

$$\begin{aligned} \text{Payoff_Difference_14: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} + x_{13} - x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} - x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex}_{14}: & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

LowBound_14: $x_{14} \geq 0$

$$\begin{aligned} \text{Payoff_Difference_15: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} + x_{14} \\ & - x_{16} + x_{17} + x_{18} + x_{19} - x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} & \text{Probability_Simplex_15: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

$$\begin{aligned} \text{Payoff_Difference_16: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ & + x_{15} - x_{17} + x_{18} + x_{19} - x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

LowBound_16: $x_{16} \geq 0$

$$\begin{aligned} & \text{Probability_Simplex}_{17}: x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$
$$\begin{aligned} \text{Payoff_Difference_18: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ & - x_{15} - x_{16} + x_{17} - x_{19} - x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

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$$\begin{aligned}
& + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
& + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
& + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
& + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
& + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
& + x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound}_{18}: x_{18} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference}_{19}: & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
& - x_{15} - x_{16} - x_{17} + x_{18} - x_2 - x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
& + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
& + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
& + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
& + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
& + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
& + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
& + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
& + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
\end{aligned}$$

$$\begin{aligned}
\text{Probability_Simplex}_{19}: & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
& + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
& + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
& + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
& + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
& + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
& + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
& + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
& + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
& + x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound}_{19}: x_{19} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference}_{20}: & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
& - x_{15} - x_{16} - x_{17} - x_{18} + x_{19} - x_2 - x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
& + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
& + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
& + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
& + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
& + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
& + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
& + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
& + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
\end{aligned}$$

$$\begin{aligned}
\text{Probability_Simplex}_{20}: & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
& + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
& + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
& + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
& + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
& + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
& + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
& + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
& + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
& + x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound}_{20}: x_{20} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference}_{21}: & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
& - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 + x_{20} - x_{22} + x_{23} + x_{24} + x_{25} \\
& + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
& + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
& + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
& + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
& + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
& + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}
\end{aligned}$$

$$+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$$

$$\text{Probability_Simplex_21: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1$$

$$\text{LowBound_21: } x_{21} \geq 0$$

$$\text{Payoff_Difference_22: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} + x_{21} - x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$$

$$\text{Probability_Simplex_22: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1$$

$$\text{LowBound_22: } x_{22} \geq 0$$

$$\text{Payoff_Difference_23: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} + x_{22} - x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$$

$$\text{Probability_Simplex_23: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1$$

$$\text{LowBound_23: } x_{23} \geq 0$$

$$\text{Payoff_Difference_24: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$$

$$\begin{aligned}
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_26: } x_{26} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_27: } E &- x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} + x_{26} - x_{28} + x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_27: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_27: } x_{27} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_28: } E &- x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} + x_{27} - x_{29} - x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_28: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_28: } x_{28} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_29: } E &- x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} + x_{28} - x_3 - x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 &+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

Probability_Simplex_32: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_32: $x_{32} \geq 0$

Payoff_Difference_33: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} + x_{32} - x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_33: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_33: $x_{33} \geq 0$

Payoff_Difference_34: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} + x_{33} - x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_34: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_34: $x_{34} \geq 0$

Payoff_Difference_35: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} + x_{34}$
 $- x_{36} + x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_35: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_35: $x_{35} \geq 0$

Payoff_Difference_36: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34}$
 $+ x_{35} - x_{37} + x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_36: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_36: $x_{36} \geq 0$

Payoff_Difference_37: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34}$
 $- x_{35} + x_{36} - x_{38} + x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_37: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$

$$\begin{aligned}
& + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
& + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
& + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
& + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
& + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
& + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
& + x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound}_{37}: x_{37} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference}_{38}: E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
- x_{35} - x_{36} + x_{37} - x_{39} - x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
\end{aligned}$$

$$\begin{aligned}
\text{Probability_Simplex}_{38}: x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
+ x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound}_{38}: x_{38} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference}_{39}: E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
- x_{35} - x_{36} - x_{37} + x_{38} - x_4 - x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
\end{aligned}$$

$$\begin{aligned}
\text{Probability_Simplex}_{39}: x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
+ x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound}_{39}: x_{39} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference}_{40}: E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
- x_{35} - x_{36} - x_{37} - x_{38} + x_{39} - x_4 - x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}
\end{aligned}$$

$$\begin{aligned}
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_40: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_40: } x_{40} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_41: } &E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 + x_{40} - x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_41: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_41: } x_{41} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_42: } &E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} + x_{41} - x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_42: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_42: } x_{42} \geq 0$$

$$\begin{aligned} & \text{Probability_Simplex}_{45}: x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \end{aligned}$$

$$\begin{aligned}
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_45: } x_{45} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_46: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 + x_{45} - x_{47} + x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_46: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 + x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_46: } x_{46} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_47: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 - x_{45} + x_{46} - x_{48} + x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_47: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 + x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_47: } x_{47} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_48: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 - x_{45} - x_{46} + x_{47} - x_{49} - x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

Probability_Simplex_48: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_48: $x_{48} \geq 0$

Payoff_Difference_49: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34}$
 $- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44}$
 $- x_{45} - x_{46} - x_{47} + x_{48} - x_5 - x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_49: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_49: $x_{49} \geq 0$

Payoff_Difference_50: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34}$
 $- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44}$
 $- x_{45} - x_{46} - x_{47} - x_{48} + x_{49} - x_5 - x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_50: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_50: $x_{50} \geq 0$

Payoff_Difference_51: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34}$

$$\begin{aligned}
 & -x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 & -x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 + x_{50} - x_{52} + x_{53} + x_{54} + x_{55} \\
 & + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 & + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 & + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

Probability_Simplex_51: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_51: $x_{51} \geq 0$

Payoff_Difference_52: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} + x_{51} - x_{53} + x_{54} + x_{55} + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_52: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_52: $x_{52} \geq 0$

Payoff_Difference_53: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} + x_{52} - x_{54} + x_{55} + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_53: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$

$$+ x_{96} + x_{97} + x_{98} + x_{99} = 1$$

$$\text{LowBound_53: } x_{53} \geq 0$$

$$\begin{aligned} \text{Payoff_Difference_54: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\ - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\ - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\ - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} + x_{53} - x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex_54: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

$$\text{LowBound_54: } x_{54} \geq 0$$

$$\begin{aligned} \text{Payoff_Difference_55: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\ - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\ - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\ - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} + x_{54} \\ - x_{56} + x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex_55: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

$$\text{LowBound_55: } x_{55} \geq 0$$

$$\begin{aligned} \text{Payoff_Difference_56: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\ - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\ - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\ - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\ + x_{55} - x_{57} + x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex_56: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \end{aligned}$$

$$\begin{aligned}
& + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
& + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
& + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
& + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
& + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
& + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
& + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
& + x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound_56: } x_{56} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference_57: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
- x_{55} + x_{56} - x_{58} + x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
\end{aligned}$$

$$\begin{aligned}
\text{Probability_Simplex_57: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
+ x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound_57: } x_{57} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference_58: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
- x_{55} - x_{56} + x_{57} - x_{59} - x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
\end{aligned}$$

$$\begin{aligned}
\text{Probability_Simplex_58: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
+ x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound_58: } x_{58} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference_59: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
- x_{55} - x_{56} - x_{57} + x_{58} - x_6 - x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}
\end{aligned}$$

$$\begin{aligned}
 &+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_59: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_59: } x_{59} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_60: } &E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 &- x_{55} - x_{56} - x_{57} - x_{58} + x_{59} - x_6 - x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_60: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_60: } x_{60} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_61: } &E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 &- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 + x_{60} - x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_61: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_61: } x_{61} \geq 0$$

$$\begin{aligned} \text{Probability_Simplex}_{64}: & \text{ x_1 + x_10 + x_100 + x_11 + x_12 + x_13 + x_14 + x_15 } \\ & + \text{ x_16 + x_17 + x_18 + x_19 + x_2 + x_20 + x_21 + x_22 + x_23 + x_24 + x_25 } \\ & + \text{ x_26 + x_27 + x_28 + x_29 + x_3 + x_30 + x_31 + x_32 + x_33 + x_34 + x_35 } \\ & + \text{ x_36 + x_37 + x_38 + x_39 + x_4 + x_40 + x_41 + x_42 + x_43 + x_44 + x_45 } \\ & + \text{ x_46 + x_47 + x_48 + x_49 + x_5 + x_50 + x_51 + x_52 + x_53 + x_54 + x_55 } \end{aligned}$$

$$\begin{aligned}
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound}_{64}: x_{64} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference}_{65}: E &- x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 &- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} + x_{64} \\
 &- x_{66} + x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex}_{65}: &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound}_{65}: x_{65} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference}_{66}: E &- x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 &- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 &+ x_{65} - x_{67} + x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex}_{66}: &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound}_{66}: x_{66} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference}_{67}: E &- x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 &- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 &- x_{65} + x_{66} - x_{68} + x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}
 \end{aligned}$$

$$+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0$$

$$\begin{aligned} \text{Probability_Simplex_67: } & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

$$\text{LowBound_67: } x_{67} \geq 0$$

$$\begin{aligned} \text{Payoff_Difference_68: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ & - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\ & - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\ & - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\ & - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\ & - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\ & - x_{65} - x_{66} + x_{67} - x_{69} - x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex_68: } & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

$$\text{LowBound_68: } x_{68} \geq 0$$

$$\begin{aligned} \text{Payoff_Difference_69: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ & - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\ & - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\ & - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\ & - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\ & - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\ & - x_{65} - x_{66} - x_{67} + x_{68} - x_7 - x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex_69: } & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ & + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

$$\text{LowBound_69: } x_{69} \geq 0$$

$$\begin{aligned} \text{Payoff_Difference_70: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ & - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \end{aligned}$$

$$\begin{aligned}
 & -x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 & -x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 & -x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 & -x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 & -x_{65} - x_{66} - x_{67} - x_{68} + x_{69} - x_7 - x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 & + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_70: } & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_70: } x_{70} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_71: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 & - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 & - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 & - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 & - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 & - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 & - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 + x_{70} - x_{72} + x_{73} + x_{74} + x_{75} \\
 & + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_71: } & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_71: } x_{71} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_72: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 & - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 & - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 & - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 & - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 & - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 & - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} + x_{71} - x_{73} + x_{74} + x_{75} \\
 & + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_72: } & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}
 \end{aligned}$$

$$+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1$$

$$\text{LowBound_72: } x_{72} \geq 0$$

$$\begin{aligned} \text{Payoff_Difference_73: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\ - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\ - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\ - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\ - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\ - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} + x_{72} - x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex_73: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

$$\text{LowBound_73: } x_{73} \geq 0$$

$$\begin{aligned} \text{Payoff_Difference_74: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\ - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\ - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\ - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\ - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\ - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} + x_{73} - x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\begin{aligned} \text{Probability_Simplex_74: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1 \end{aligned}$$

$$\text{LowBound_74: } x_{74} \geq 0$$

$$\begin{aligned} \text{Payoff_Difference_75: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\ - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\ - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\ - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\ - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\ - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} + x_{74} \\ - x_{76} + x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0 \end{aligned}$$

$$\text{Probability_Simplex_75: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$$

$$\begin{aligned}
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

LowBound_75: $x_{75} \geq 0$

Payoff_Difference_76: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$

$$\begin{aligned}
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 &- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 &- x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
 &+ x_{75} - x_{77} + x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

Probability_Simplex_76: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$

$$\begin{aligned}
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

LowBound_76: $x_{76} \geq 0$

Payoff_Difference_77: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$

$$\begin{aligned}
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 &- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 &- x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
 &- x_{75} + x_{76} - x_{78} + x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

Probability_Simplex_77: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$

$$\begin{aligned}
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

LowBound_77: $x_{77} \geq 0$

Payoff_Difference_78: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$

$$\begin{aligned}
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54}
 \end{aligned}$$

$$\begin{aligned}
 & -x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 & -x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
 & -x_{75} - x_{76} + x_{77} - x_{79} - x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_78: } & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_78: } x_{78} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_79: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 & - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 & - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 & - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 & - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 & - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 & - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
 & - x_{75} - x_{76} - x_{77} + x_{78} - x_8 - x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_79: } & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_79: } x_{79} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_80: } & E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 & - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 & - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 & - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 & - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 & - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 & - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
 & - x_{75} - x_{76} - x_{77} - x_{78} + x_{79} - x_8 - x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_80: } & x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 & + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 & + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 & + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 & + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 & + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 & + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 & + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 & + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

LowBound_80: $x_{80} \geq 0$

Payoff_Difference_81: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} - x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 + x_{80} - x_{82} + x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_81: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_81: $x_{81} \geq 0$

Payoff_Difference_82: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} - x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} + x_{81} - x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_82: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_82: $x_{82} \geq 0$

Payoff_Difference_83: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} - x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} + x_{82} - x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_83: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$

$$\begin{aligned}
&+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
&+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
&+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
&+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
&+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
&+ x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound_83: } x_{83} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference_84: } &E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
&- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
&- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
&- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
&- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
&- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
&- x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
&- x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} + x_{83} - x_{85} \\
&+ x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
&+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
\end{aligned}$$

$$\begin{aligned}
\text{Probability_Simplex_84: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
&+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
&+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
&+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
&+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
&+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
&+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
&+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
&+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
&+ x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound_84: } x_{84} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference_85: } &E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
&- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
&- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
&- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
&- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
&- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
&- x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
&- x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} + x_{84} \\
&- x_{86} + x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
&+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
\end{aligned}$$

$$\begin{aligned}
\text{Probability_Simplex_85: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
&+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
&+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
&+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
&+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
&+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
&+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
&+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
&+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
&+ x_{96} + x_{97} + x_{98} + x_{99} = 1
\end{aligned}$$

$$\text{LowBound_85: } x_{85} \geq 0$$

$$\begin{aligned}
\text{Payoff_Difference_86: } &E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
&- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
&- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
&- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
&- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
&- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
&- x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
&- x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84}
\end{aligned}$$

$$+ x_{85} - x_{87} + x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$$

$$\text{Probability_Simplex_86: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1$$

$$\text{LowBound_86: } x_{86} \geq 0$$

$$\text{Payoff_Difference_87: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\ - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\ - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\ - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\ - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\ - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\ - x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84} \\ - x_{85} + x_{86} - x_{88} + x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$$

$$\text{Probability_Simplex_87: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1$$

$$\text{LowBound_87: } x_{87} \geq 0$$

$$\text{Payoff_Difference_88: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\ - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\ - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\ - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\ - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\ - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\ - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\ - x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84} \\ - x_{85} - x_{86} + x_{87} - x_{89} - x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$$

$$\text{Probability_Simplex_88: } x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\ + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\ + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\ + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\ + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\ + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\ + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\ + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\ + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\ + x_{96} + x_{97} + x_{98} + x_{99} = 1$$

$$\text{LowBound_88: } x_{88} \geq 0$$

$$\text{Payoff_Difference_89: } E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$$

$$\begin{aligned}
 & -x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 & -x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 & -x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 & -x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 & -x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 & -x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
 & -x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84} \\
 & -x_{85} - x_{86} - x_{87} + x_{88} - x_9 - x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 & + x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

Probability_Simplex_89: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_89: $x_{89} \geq 0$

Payoff_Difference_90: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} - x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84} - x_{85} - x_{86} - x_{87} - x_{88} + x_{89} - x_9 - x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_90: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} + x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} + x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_90: $x_{90} \geq 0$

Payoff_Difference_91: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} - x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} - x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} - x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} - x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} - x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} - x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} - x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84} - x_{85} - x_{86} - x_{87} - x_{88} - x_{89} - x_9 + x_{90} - x_{92} + x_{93} + x_{94} + x_{95} + x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_91: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} + x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} + x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} + x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} + x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} + x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$

$$\begin{aligned}
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_91: } x_{91} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_92: } E &- x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 &- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 &- x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
 &- x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84} \\
 &- x_{85} - x_{86} - x_{87} - x_{88} - x_{89} - x_9 - x_{90} + x_{91} - x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_92: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_92: } x_{92} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_93: } E &- x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 &- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 &- x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
 &- x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84} \\
 &- x_{85} - x_{86} - x_{87} - x_{88} - x_{89} - x_9 - x_{90} - x_{91} + x_{92} - x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Probability_Simplex_93: } &x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} \\
 &+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25} \\
 &+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35} \\
 &+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45} \\
 &+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55} \\
 &+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65} \\
 &+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75} \\
 &+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85} \\
 &+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} = 1
 \end{aligned}$$

$$\text{LowBound_93: } x_{93} \geq 0$$

$$\begin{aligned}
 \text{Payoff_Difference_94: } E &- x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14} \\
 &- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} \\
 &- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} \\
 &- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} \\
 &- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} \\
 &- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} \\
 &- x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} \\
 &- x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84} \\
 &- x_{85} - x_{86} - x_{87} - x_{88} - x_{89} - x_9 - x_{90} - x_{91} - x_{92} + x_{93} - x_{95} \\
 &+ x_{96} + x_{97} + x_{98} + x_{99} \leq 0
 \end{aligned}$$

Probability_Simplex_94: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_94: $x_{94} \geq 0$

Payoff_Difference_95: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34}$
 $- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44}$
 $- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54}$
 $- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64}$
 $- x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74}$
 $- x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84}$
 $- x_{85} - x_{86} - x_{87} - x_{88} - x_{89} - x_9 - x_{90} - x_{91} - x_{92} - x_{93} + x_{94}$
 $- x_{96} + x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_95: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_95: $x_{95} \geq 0$

Payoff_Difference_96: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34}$
 $- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44}$
 $- x_{45} - x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54}$
 $- x_{55} - x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64}$
 $- x_{65} - x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74}$
 $- x_{75} - x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84}$
 $- x_{85} - x_{86} - x_{87} - x_{88} - x_{89} - x_9 - x_{90} - x_{91} - x_{92} - x_{93} - x_{94}$
 $+ x_{95} - x_{97} + x_{98} + x_{99} \leq 0$

Probability_Simplex_96: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_96: $x_{96} \geq 0$

Payoff_Difference_97: $E - x_1 - x_{10} + x_{100} - x_{11} - x_{12} - x_{13} - x_{14}$
 $- x_{15} - x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24}$
 $- x_{25} - x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34}$
 $- x_{35} - x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44}$

```

- x_45 - x_46 - x_47 - x_48 - x_49 - x_5 - x_50 - x_51 - x_52 - x_53 - x_54
- x_55 - x_56 - x_57 - x_58 - x_59 - x_6 - x_60 - x_61 - x_62 - x_63 - x_64
- x_65 - x_66 - x_67 - x_68 - x_69 - x_7 - x_70 - x_71 - x_72 - x_73 - x_74
- x_75 - x_76 - x_77 - x_78 - x_79 - x_8 - x_80 - x_81 - x_82 - x_83 - x_84
- x_85 - x_86 - x_87 - x_88 - x_89 - x_9 - x_90 - x_91 - x_92 - x_93 - x_94
- x_95 + x_96 - x_98 + x_99 <= 0

```

```

Probability_Simplex_97: x_1 + x_10 + x_100 + x_11 + x_12 + x_13 + x_14 + x_15
+ x_16 + x_17 + x_18 + x_19 + x_2 + x_20 + x_21 + x_22 + x_23 + x_24 + x_25
+ x_26 + x_27 + x_28 + x_29 + x_3 + x_30 + x_31 + x_32 + x_33 + x_34 + x_35
+ x_36 + x_37 + x_38 + x_39 + x_4 + x_40 + x_41 + x_42 + x_43 + x_44 + x_45
+ x_46 + x_47 + x_48 + x_49 + x_5 + x_50 + x_51 + x_52 + x_53 + x_54 + x_55
+ x_56 + x_57 + x_58 + x_59 + x_6 + x_60 + x_61 + x_62 + x_63 + x_64 + x_65
+ x_66 + x_67 + x_68 + x_69 + x_7 + x_70 + x_71 + x_72 + x_73 + x_74 + x_75
+ x_76 + x_77 + x_78 + x_79 + x_8 + x_80 + x_81 + x_82 + x_83 + x_84 + x_85
+ x_86 + x_87 + x_88 + x_89 + x_9 + x_90 + x_91 + x_92 + x_93 + x_94 + x_95
+ x_96 + x_97 + x_98 + x_99 = 1

```

LowBound_97: x_97 >= 0

```

Payoff_Difference_98: E - x_1 - x_10 + x_100 - x_11 - x_12 - x_13 - x_14
- x_15 - x_16 - x_17 - x_18 - x_19 - x_2 - x_20 - x_21 - x_22 - x_23 - x_24
- x_25 - x_26 - x_27 - x_28 - x_29 - x_3 - x_30 - x_31 - x_32 - x_33 - x_34
- x_35 - x_36 - x_37 - x_38 - x_39 - x_4 - x_40 - x_41 - x_42 - x_43 - x_44
- x_45 - x_46 - x_47 - x_48 - x_49 - x_5 - x_50 - x_51 - x_52 - x_53 - x_54
- x_55 - x_56 - x_57 - x_58 - x_59 - x_6 - x_60 - x_61 - x_62 - x_63 - x_64
- x_65 - x_66 - x_67 - x_68 - x_69 - x_7 - x_70 - x_71 - x_72 - x_73 - x_74
- x_75 - x_76 - x_77 - x_78 - x_79 - x_8 - x_80 - x_81 - x_82 - x_83 - x_84
- x_85 - x_86 - x_87 - x_88 - x_89 - x_9 - x_90 - x_91 - x_92 - x_93 - x_94
- x_95 - x_96 + x_97 - x_99 <= 0

```

```

Probability_Simplex_98: x_1 + x_10 + x_100 + x_11 + x_12 + x_13 + x_14 + x_15
+ x_16 + x_17 + x_18 + x_19 + x_2 + x_20 + x_21 + x_22 + x_23 + x_24 + x_25
+ x_26 + x_27 + x_28 + x_29 + x_3 + x_30 + x_31 + x_32 + x_33 + x_34 + x_35
+ x_36 + x_37 + x_38 + x_39 + x_4 + x_40 + x_41 + x_42 + x_43 + x_44 + x_45
+ x_46 + x_47 + x_48 + x_49 + x_5 + x_50 + x_51 + x_52 + x_53 + x_54 + x_55
+ x_56 + x_57 + x_58 + x_59 + x_6 + x_60 + x_61 + x_62 + x_63 + x_64 + x_65
+ x_66 + x_67 + x_68 + x_69 + x_7 + x_70 + x_71 + x_72 + x_73 + x_74 + x_75
+ x_76 + x_77 + x_78 + x_79 + x_8 + x_80 + x_81 + x_82 + x_83 + x_84 + x_85
+ x_86 + x_87 + x_88 + x_89 + x_9 + x_90 + x_91 + x_92 + x_93 + x_94 + x_95
+ x_96 + x_97 + x_98 + x_99 = 1

```

LowBound_98: x_98 >= 0

```

Payoff_Difference_99: E - x_1 - x_10 - x_100 - x_11 - x_12 - x_13 - x_14
- x_15 - x_16 - x_17 - x_18 - x_19 - x_2 - x_20 - x_21 - x_22 - x_23 - x_24
- x_25 - x_26 - x_27 - x_28 - x_29 - x_3 - x_30 - x_31 - x_32 - x_33 - x_34
- x_35 - x_36 - x_37 - x_38 - x_39 - x_4 - x_40 - x_41 - x_42 - x_43 - x_44
- x_45 - x_46 - x_47 - x_48 - x_49 - x_5 - x_50 - x_51 - x_52 - x_53 - x_54
- x_55 - x_56 - x_57 - x_58 - x_59 - x_6 - x_60 - x_61 - x_62 - x_63 - x_64
- x_65 - x_66 - x_67 - x_68 - x_69 - x_7 - x_70 - x_71 - x_72 - x_73 - x_74
- x_75 - x_76 - x_77 - x_78 - x_79 - x_8 - x_80 - x_81 - x_82 - x_83 - x_84
- x_85 - x_86 - x_87 - x_88 - x_89 - x_9 - x_90 - x_91 - x_92 - x_93 - x_94
- x_95 - x_96 - x_97 + x_98 <= 0

```

```

Probability_Simplex_99: x_1 + x_10 + x_100 + x_11 + x_12 + x_13 + x_14 + x_15
+ x_16 + x_17 + x_18 + x_19 + x_2 + x_20 + x_21 + x_22 + x_23 + x_24 + x_25
+ x_26 + x_27 + x_28 + x_29 + x_3 + x_30 + x_31 + x_32 + x_33 + x_34 + x_35
+ x_36 + x_37 + x_38 + x_39 + x_4 + x_40 + x_41 + x_42 + x_43 + x_44 + x_45
+ x_46 + x_47 + x_48 + x_49 + x_5 + x_50 + x_51 + x_52 + x_53 + x_54 + x_55
+ x_56 + x_57 + x_58 + x_59 + x_6 + x_60 + x_61 + x_62 + x_63 + x_64 + x_65
+ x_66 + x_67 + x_68 + x_69 + x_7 + x_70 + x_71 + x_72 + x_73 + x_74 + x_75
+ x_76 + x_77 + x_78 + x_79 + x_8 + x_80 + x_81 + x_82 + x_83 + x_84 + x_85
+ x_86 + x_87 + x_88 + x_89 + x_9 + x_90 + x_91 + x_92 + x_93 + x_94 + x_95
+ x_96 + x_97 + x_98 + x_99 = 1

```

LowBound_99: $x_{99} \geq 0$

Payoff_Difference_100: $E - x_1 - x_{10} - x_{11} - x_{12} - x_{13} - x_{14} - x_{15}$
 $- x_{16} - x_{17} - x_{18} - x_{19} - x_2 - x_{20} - x_{21} - x_{22} - x_{23} - x_{24} - x_{25}$
 $- x_{26} - x_{27} - x_{28} - x_{29} - x_3 - x_{30} - x_{31} - x_{32} - x_{33} - x_{34} - x_{35}$
 $- x_{36} - x_{37} - x_{38} - x_{39} - x_4 - x_{40} - x_{41} - x_{42} - x_{43} - x_{44} - x_{45}$
 $- x_{46} - x_{47} - x_{48} - x_{49} - x_5 - x_{50} - x_{51} - x_{52} - x_{53} - x_{54} - x_{55}$
 $- x_{56} - x_{57} - x_{58} - x_{59} - x_6 - x_{60} - x_{61} - x_{62} - x_{63} - x_{64} - x_{65}$
 $- x_{66} - x_{67} - x_{68} - x_{69} - x_7 - x_{70} - x_{71} - x_{72} - x_{73} - x_{74} - x_{75}$
 $- x_{76} - x_{77} - x_{78} - x_{79} - x_8 - x_{80} - x_{81} - x_{82} - x_{83} - x_{84} - x_{85}$
 $- x_{86} - x_{87} - x_{88} - x_{89} - x_9 - x_{90} - x_{91} - x_{92} - x_{93} - x_{94} - x_{95}$
 $- x_{96} - x_{97} - x_{98} + x_{99} \leq 0$

Probability_Simplex_100: $x_1 + x_{10} + x_{100} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$
 $+ x_{16} + x_{17} + x_{18} + x_{19} + x_2 + x_{20} + x_{21} + x_{22} + x_{23} + x_{24} + x_{25}$
 $+ x_{26} + x_{27} + x_{28} + x_{29} + x_3 + x_{30} + x_{31} + x_{32} + x_{33} + x_{34} + x_{35}$
 $+ x_{36} + x_{37} + x_{38} + x_{39} + x_4 + x_{40} + x_{41} + x_{42} + x_{43} + x_{44} + x_{45}$
 $+ x_{46} + x_{47} + x_{48} + x_{49} + x_5 + x_{50} + x_{51} + x_{52} + x_{53} + x_{54} + x_{55}$
 $+ x_{56} + x_{57} + x_{58} + x_{59} + x_6 + x_{60} + x_{61} + x_{62} + x_{63} + x_{64} + x_{65}$
 $+ x_{66} + x_{67} + x_{68} + x_{69} + x_7 + x_{70} + x_{71} + x_{72} + x_{73} + x_{74} + x_{75}$
 $+ x_{76} + x_{77} + x_{78} + x_{79} + x_8 + x_{80} + x_{81} + x_{82} + x_{83} + x_{84} + x_{85}$
 $+ x_{86} + x_{87} + x_{88} + x_{89} + x_9 + x_{90} + x_{91} + x_{92} + x_{93} + x_{94} + x_{95}$
 $+ x_{96} + x_{97} + x_{98} + x_{99} = 1$

LowBound_100: $x_{100} \geq 0$

VARIABLES

E free Continuous

x_1 Continuous

x_{10} Continuous

x_{100} Continuous

x_{11} Continuous

x_{12} Continuous

x_{13} Continuous

x_{14} Continuous

x_{15} Continuous

x_{16} Continuous

x_{17} Continuous

x_{18} Continuous

x_{19} Continuous

x_2 Continuous

x_{20} Continuous

x_{21} Continuous

x_{22} Continuous

x_{23} Continuous

x_{24} Continuous

x_{25} Continuous

x_{26} Continuous

x_{27} Continuous

x_{28} Continuous

x_{29} Continuous

x_3 Continuous

x_{30} Continuous

x_{31} Continuous

x_{32} Continuous

x_{33} Continuous

x_{34} Continuous

x_{35} Continuous

x_{36} Continuous

x_{37} Continuous

x_{38} Continuous

x_{39} Continuous

x_4 Continuous

x_{40} Continuous

x_41 Continuous
x_42 Continuous
x_43 Continuous
x_44 Continuous
x_45 Continuous
x_46 Continuous
x_47 Continuous
x_48 Continuous
x_49 Continuous
x_5 Continuous
x_50 Continuous
x_51 Continuous
x_52 Continuous
x_53 Continuous
x_54 Continuous
x_55 Continuous
x_56 Continuous
x_57 Continuous
x_58 Continuous
x_59 Continuous
x_6 Continuous
x_60 Continuous
x_61 Continuous
x_62 Continuous
x_63 Continuous
x_64 Continuous
x_65 Continuous
x_66 Continuous
x_67 Continuous
x_68 Continuous
x_69 Continuous
x_7 Continuous
x_70 Continuous
x_71 Continuous
x_72 Continuous
x_73 Continuous
x_74 Continuous
x_75 Continuous
x_76 Continuous
x_77 Continuous
x_78 Continuous
x_79 Continuous
x_8 Continuous
x_80 Continuous
x_81 Continuous
x_82 Continuous
x_83 Continuous
x_84 Continuous
x_85 Continuous
x_86 Continuous
x_87 Continuous
x_88 Continuous
x_89 Continuous
x_9 Continuous
x_90 Continuous
x_91 Continuous
x_92 Continuous
x_93 Continuous
x_94 Continuous
x_95 Continuous
x_96 Continuous
x_97 Continuous
x_98 Continuous
x_99 Continuous

```
In [9]: LP_Prob.writeLP('IntegerGameProblem.lp')
```

```
Out[9]: [E,  
        x_1,  
        x_10,  
        x_100,  
        x_11,  
        x_12,  
        x_13,  
        x_14,  
        x_15,  
        x_16,  
        x_17,  
        x_18,  
        x_19,  
        x_2,  
        x_20,  
        x_21,  
        x_22,  
        x_23,  
        x_24,  
        x_25,  
        x_26,  
        x_27,  
        x_28,  
        x_29,  
        x_3,  
        x_30,  
        x_31,  
        x_32,  
        x_33,  
        x_34,  
        x_35,  
        x_36,  
        x_37,  
        x_38,  
        x_39,  
        x_4,  
        x_40,  
        x_41,  
        x_42,  
        x_43,  
        x_44,  
        x_45,  
        x_46,  
        x_47,  
        x_48,  
        x_49,  
        x_5,  
        x_50,  
        x_51,  
        x_52,  
        x_53,  
        x_54,  
        x_55,  
        x_56,  
        x_57,  
        x_58,  
        x_59,  
        x_6,  
        x_60,  
        x_61,  
        x_62,
```

```

x_63,
x_64,
x_65,
x_66,
x_67,
x_68,
x_69,
x_7,
x_70,
x_71,
x_72,
x_73,
x_74,
x_75,
x_76,
x_77,
x_78,
x_79,
x_8,
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x_88,
x_89,
x_9,
x_90,
x_91,
x_92,
x_93,
x_94,
x_95,
x_96,
x_97,
x_98,
x_99]

```

```

In [10]: # The Problem is Solved Using PuLP's Choice of Solver.
         LP_Prob.solve()

```

```
Out[10]: 1
```

```

In [11]: print(f'Status: {LpStatus[LP_Prob.status]} \n')

         optimal_strategies = {}
         for variable in LP_Prob.variables() :
             if (variable.name != 'E') :
                 if (variable.varValue in optimal_strategies) :
                     # If Expected Payoff is Already in Dictionary
                     optimal_strategies[variable.varValue].append(variable.name)
                 else :
                     optimal_strategies[variable.varValue] = [variable.name]
         if (LpStatus[LP_Prob.status] == 'Optimal') :
             print(f'Optimal Value : Z = {value(LP_Prob.objective)}')
         else :
             print(f'No Optimal Value. Status Code : {value(LP_Prob.objective)}')

```

Status: Optimal

Optimal Value : Z = 0.0

In [12]:

```
for expected_payoff, strategy in optimal_strategies.items() :
    print(f'Expected Payoff : {expected_payoff}\n')
    print(f'Strategies : \n{strategy}\n')
```

Expected Payoff : 0.33333333

Strategies :

['x_1', 'x_2', 'x_3']

Expected Payoff : 0.0

Strategies :

['x_10', 'x_100', 'x_11', 'x_12', 'x_13', 'x_14', 'x_15', 'x_16', 'x_17', 'x_18', 'x_19', 'x_20', 'x_21', 'x_22', 'x_23', 'x_24', 'x_25', 'x_26', 'x_27', 'x_28', 'x_29', 'x_30', 'x_31', 'x_32', 'x_33', 'x_34', 'x_35', 'x_36', 'x_37', 'x_38', 'x_39', 'x_4', 'x_40', 'x_41', 'x_42', 'x_43', 'x_44', 'x_45', 'x_46', 'x_47', 'x_48', 'x_49', 'x_5', 'x_50', 'x_51', 'x_52', 'x_53', 'x_54', 'x_55', 'x_56', 'x_57', 'x_58', 'x_59', 'x_6', 'x_60', 'x_61', 'x_62', 'x_63', 'x_64', 'x_65', 'x_66', 'x_67', 'x_68', 'x_69', 'x_7', 'x_70', 'x_71', 'x_72', 'x_73', 'x_74', 'x_75', 'x_76', 'x_77', 'x_78', 'x_79', 'x_8', 'x_80', 'x_81', 'x_82', 'x_83', 'x_84', 'x_85', 'x_86', 'x_87', 'x_88', 'x_89', 'x_9', 'x_90', 'x_91', 'x_92', 'x_93', 'x_94', 'x_95', 'x_96', 'x_97', 'x_98', 'x_99']