(venv) gerd@gerd-ub2:~/env/komega/tst\$ python3 komega-v08e.py
1 is START
2 is EDIT P and V
3 is EDIT S
4 is EDIT X
5 is SIMULATION
6 is EVALUATION
7 is STOP
Enter a Number [1-7] for Menu Option
2
!!You have selected the state :
EDIT P and V
Here you can describe your problem and your vision with regard to different questions.
You will be asked to the following topics:

1 is PROBLEM 2 is VISION 3 is REGION 4 is TIME 5 is PERSONS (Individuals or Roles)

Here is a list of all Problem-Vision documents so far: ['MariaBibliothek1', 'MariaBuch1', 'PeterTanken7', 'PeterTanken8', 'PeterTanken4', 'pvr1', 'PeterMussTanken', 'PeterTanken5', 'pvd1', 'PeterTanken6', 'PeterTanken1']

Enter a NAME for your problem MaryBook1 Feedback Problem Name : MaryBook1

Enter your PROBLEM in plain text Mary does not yet have the book from Kaube Feedback Problem Now : Mary does not yet have the book from Kaube

Enter your VISION of a better state in the future in plain text Mary has the book from Kaube Feedback Problem Future : Mary has the book from Kaube

Enter the NAME of the CITY or REGION you are in Frankfurt

Feedback Problem Region : Frankfurt

TIME model [From, Until,Cycleunit [Y or M or D or H]] 2020-10-12 7 am, 2020-10-12 7 pm, H Feedback Problem TimeModel : ['2020-10-12 7 am', ' 2020-10-12 7 pm', ' H']

Which kinds of PERSONS (individuals or roles) are important? Write a list, comma separated please : Mary, book seller Feedback Problem Persons : ['Mary', ' book seller']

The final problem document with the name MaryBook1 is the following one: {'problem': 'Mary does not yet have the book from Kaube', 'vision': 'Mary has the book from Kaube', 'region': 'Frankfurt', 'time': '2020-10-12 7 am, 2020-10-12 7 pm, H', 'persons': 'Mary, book seller'} STOP MAIN LOOP != 'Y', CONTINUE = 'Y' Y 1 is START 2 is EDIT P and V 3 is EDIT S 4 is EDIT X **5 is SIMULATION** 6 is EVALUATION 7 is STOP Enter a Number [1-7] for Menu Option 3 !!You have selected the state : EDIT S Here You can describe an actual state S related to your problem. Here is a list of all state descriptions so far: ['MariaBibliothek1', 'MariaBuch1', 'PeterTanken7', 'PeterTanken8'] Do You want to load a document S? [Y,N] Ν Enter a NAME for the new state description: MaryBook1 Feedback STATE Name : MaryBook1 Enter an expression for your state description in plain text : Mary does not yet have the book from Kaube Feedback Your last expression : Mary does not yet have the book from Kaube Feedback Your document S so far : {'Mary does not yet have the book from Kaube'} STOP Editing S != Y', CONTINUE = 'Y' Y

Enter an expression for your state description in plain text :

Mary is at home Feedback Your last expression : Mary is at home Feedback Your document S so far : {'Mary is at home', 'Mary does not yet have the book from Kaube'} STOP Editing S != Y', CONTINUE = 'Y' Y Enter an expression for your state description in plain text : There are bookshops and libraries in the city Feedback Your last expression : There are bookshops and libraries in the city Feedback Your document S so far : {'Mary is at home', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'} STOP Editing S != Y', CONTINUE = 'Y' Υ Enter an expression for your state description in plain text : Mary wants to have the book before Tuesday 13.October 2020 7 pm Feedback Your last expression : Mary wants to have the book before Tuesday 13.October 2020 7 pm Feedback Your document S so far : {'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'Mary is at home', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'} STOP Editing S != Y', CONTINUE = 'Y' Your final State Description document is now : {'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'Mary is at home', 'There are

bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'} STOP MAIN LOOP != 'Y', CONTINUE = 'Y' Y

1 is START 2 is EDIT P and V 3 is EDIT S 4 is EDIT X 5 is SIMULATION 6 is EVALUATION 7 is STOP Enter a Number [1-7] for Menu Option 4 !!You have selected the state : EDIT X Here You can edit some change rules X to apply to an actual state S.

Here is a list of all rule documents so far: ['MariaBuch1', 'MariaBib2', 'MariaBib1', 'MariaBib3'] Do You want to load a document X? [Y,N] N Enter the name of the new rules document: MaryBook1 CONDITION : Mary does not yet have the book from Kaube

Your condition set so far : {'Mary does not yet have the book from Kaube'} CONTINUE Editing Condition = 'Y', STOP != 'Y' Υ **CONDITION :** Mary is at home Your condition set so far : {'Mary is at home', 'Mary does not yet have the book from Kaube'} CONTINUE Editing Condition = 'Y', STOP != 'Y' n Enter a probability between 0.0 and 1.0 1.0 Your single rule buffer : [{'Mary is at home', 'Mary does not yet have the book from Kaube'}, '1.0'] **EFFECT-:** Mary is at home Your set eminus so far : {'Mary is at home'} CONTINUE Editing EMinus = 'Y', STOP != 'Y' n **EFFECT+:** Mary wents to the bookshop Your set eplus so far : {'Mary wents to the bookshop'} CONTINUE Editing EPlus = 'Y', STOP != 'Y' n Your Rules document with name MaryBook1 is now : [{'CONDITION': {'Mary is at home', 'Mary does not yet have the book from Kaube'}, 'PROBABILITY': '1.0', 'EFFECT-': {'Mary is at home'}, 'EFFECT+': {'Mary wents to the bookshop'}}] CONTINUE Editing X = 'Y', STOP != 'Y' Y **CONDITION:** Mary wents to the bookshop Your condition set so far : {'Mary wents to the bookshop'} CONTINUE Editing Condition = 'Y', STOP != 'Y' n Enter a probability between 0.0 and 1.0 1.0 Your single rule buffer : [{'Mary wents to the bookshop'}, '1.0'] **EFFECT-:** Mary wents to the bookshop Your set eminus so far : {'Mary wents to the bookshop'} CONTINUE Editing EMinus = 'Y', STOP != 'Y' n **EFFECT+:** Mary enters the bookshop Your set eplus so far : {'Mary enters the bookshop'} CONTINUE Editing EPlus = 'Y', STOP != 'Y' n Your Rules document with name MaryBook1 is now :

```
[{'CONDITION': {'Mary is at home', 'Mary does not yet have the book from Kaube'},
'PROBABILITY': '1.0', 'EFFECT-': {'Mary is at home'}, 'EFFECT+': {'Mary wents to the
bookshop'}, {'CONDITION': {'Mary wents to the bookshop'}, 'PROBABILITY': '1.0', 'EFFECT-':
{'Mary wents to the bookshop'}, 'EFFECT+': {'Mary enters the bookshop'}]
```

```
CONTINUE Editing X = 'Y', STOP != 'Y'
Y
CONDITION:
Mary enters the bookshop
Your condition set so far : {'Mary enters the bookshop'}
CONTINUE Editing Condition = 'Y', STOP != 'Y'
n
Enter a probability between 0.0 and 1.0
1.0
Your single rule buffer : [{'Mary enters the bookshop'}, '1.0']
EFFECT-:
Mary enters the bookshop
Your set eminus so far : {'Mary enters the bookshop'}
CONTINUE Editing EMinus = 'Y', STOP != 'Y'
n
EFFECT+:
Mary is in the bookshop
Your set eplus so far : {'Mary is in the bookshop'}
CONTINUE Editing EPlus = 'Y', STOP != 'Y'
Y
EFFECT+:
Mary asks for the book from Kaube
Your set eplus so far : {'Mary is in the bookshop', 'Mary asks for the book from Kaube'}
CONTINUE Editing EPlus = 'Y', STOP != 'Y'
Your Rules document with name MaryBook1 is now :
[{'CONDITION': {'Mary is at home', 'Mary does not yet have the book from Kaube'},
'PROBABILITY': '1.0', 'EFFECT-': {'Mary is at home'}, 'EFFECT+': {'Mary wents to the
bookshop'}}, {'CONDITION': {'Mary wents to the bookshop'}, 'PROBABILITY': '1.0', 'EFFECT-':
{'Mary wents to the bookshop'}, 'EFFECT+': {'Mary enters the bookshop'}}, {'CONDITION':
{'Mary enters the bookshop'}, 'PROBABILITY': '1.0', 'EFFECT-': {'Mary enters the bookshop'},
'EFFECT+': {'Mary is in the bookshop', 'Mary asks for the book from Kaube'}}]
CONTINUE Editing X = 'Y', STOP != 'Y'
n
STOP MAIN LOOP != 'Y', CONTINUE = 'Y'
Y
1 is START
2 is EDIT P and V
3 is EDIT S
4 is EDIT X
5 is SIMULATION
6 is EVALUATION
7 is STOP
Enter a Number [1-7] for Menu Option
5
!!You have selected the state :
SIMULATION
Here You can run a simulation SIM to check what happens with your initial state S when the change
rules X will be applied repeatadly on the state S.
Do You want to load a state description S? [Y,N]
Y
```

Here is the list of all stored state descriptions so far :

['MaryBook1', 'MariaBibliothek1', 'MariaBuch1', 'PeterTanken7', 'PeterTanken8'] Enter a name for the document you want to load : MaryBook1 Your State Description document is as follows :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'Mary is at home', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'} Do You want to load a rule document X? [Y,N]

Y

Here is the list of all stored rule documents so far :

['MaryBook1', 'MariaBuch1', 'MariaBib2', 'MariaBib1', 'MariaBib3'] Enter a name for the rule document you want to load : MaryBook1 Your Rules document is as follows :

[{'CONDITION': {'Mary is at home', 'Mary does not yet have the book from Kaube'}, 'PROBABILITY': '1.0', 'EFFECT-': {'Mary is at home'}, 'EFFECT+': {'Mary wents to the bookshop'}, {'CONDITION': {'Mary wents to the bookshop'}, 'PROBABILITY': '1.0', 'EFFECT-': {'Mary wents to the bookshop'}, 'EFFECT+': {'Mary enters the bookshop'}, {'CONDITION': {'Mary enters the bookshop'}, 'PROBABILITY': '1.0', 'EFFECT-': {'Mary enters the bookshop'}, 'EFFECT+': {'Mary is in the bookshop', 'Mary asks for the book from Kaube'}}] Set S given :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'Mary is at home', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'} Actual rule :

{'CONDITION': {'Mary is at home', 'Mary does not yet have the book from Kaube'}, 'PROBABILITY': '1.0', 'EFFECT-': {'Mary is at home'}, 'EFFECT+': {'Mary wents to the bookshop'}}

Set S after Remove :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'} Set S after Union :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'Mary wents to the bookshop', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'}

Set S given :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'Mary wents to the bookshop', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'}

Actual rule :

{'CONDITION': {'Mary wents to the bookshop'}, 'PROBABILITY': '1.0', 'EFFECT-': {'Mary wents to the bookshop'}, 'EFFECT+': {'Mary enters the bookshop'}}

Set S after Remove :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'} Set S after Union :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'Mary enters the bookshop', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'} Set S given :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'Mary enters the bookshop', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'} Actual rule :

{'CONDITION': {'Mary enters the bookshop'}, 'PROBABILITY': '1.0', 'EFFECT-': {'Mary enters the bookshop'}, 'EFFECT+': {'Mary is in the bookshop', 'Mary asks for the book from Kaube'}} Set S after Remove :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube'} Set S after Union :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'Mary is in the bookshop', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube', 'Mary asks for the book from Kaube'}

New set S :

{'Mary wants to have the book before Tuesday 13.October 2020 7 pm', 'Mary is in the bookshop', 'There are bookshops and libraries in the city', 'Mary does not yet have the book from Kaube', 'Mary asks for the book from Kaube'}

CONTINUE Simulation = 'Y', STOP != 'Y' n STOP MAIN LOOP != 'Y', CONTINUE = 'Y' n

(venv) gerd@gerd-ub2:~/env/komega/tst\$

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