CPE 372/641 Natural Language Processing

Individual Homework 4: Dialogue Agent

Car Dialogue

1. Source code that contain patterns/rules.

Partterns/rules ของผมจะอยู่ในไฟล์ text.txt ซึ่งจะต้องทำการกำหนด data structure เป็น

Initials Array of initial phrases ประโยคใช้เริ่มต้นการสนทนา

Finals Array of final phrases ประโยคการจบการสนทนา

Quit Array of quit phrases คำสั่งออก

Pres Array of alternating name value pairs for preprocessing

Posts Array of alternating name value pairs for postprocessing

Synons Object of words and their synonyms (as array) การกำหนดคำที่ ความหมายใกล้เคียงกัน

Keywords Array of keywords with decompositions and reasemblies.

keywords with higher rank take precedence. เราจะสามารถกำหนดความสำคัญ ของ keyword ได้ ในกรณีที่เราต้องการเลือกคำเป็น พิเศษ เช่น เรากำหนด service 1 กับ location 5 ถ้าในประโยคประกอบด้วยคำว่า where is your service location? โดยตัว โปรแกรม eliza จะทำการเลือก location มาเป็นตัวแรก

decompositions are matched in definition order. เราจะสามารถกำหนด pattern keywords ได้ เช่นคำว่า want เราต้องการคำว่า want to ก็จะสามารถกำหนดได้ เพื่อที่จะเลือกตัวของ reasemblies ได้

reasemblies are chosen by cycled through if the no-random flag is set. ประโยคที่นำไปใช้เลือกการตอบกลับให้ผู้ใช้งาน ซึ่งจะเลือกการใช้งานแบบ cycled จากบนลงล่าง

Special keyword "xnone" holds the rules for default phrases (no match). คำที่ไม่ถูก patterns หรือ rules จะถูกกำหนดไว้ใน xnone เพื่อเป็น default ของโปรแกรม

```
initial: Welcome to Car119 service. I'm a support chat. How can I help you today?
   final: Goodbye. Thank you for talking to me.
   quit: bye
   quit: goodbye
   quit: quit
6 pre: dont don't
  pre: cant can't
8 pre: wont won't
  pre: when what
10 pre: certainly yes
11 pre: were was
12 pre: you're you are
13 pre: i'm i am
14 post: am are
15 post: your my
16 post: me you
17 post: myself yourself
18 post: yourself myself
19 post: i you
20 post: you I
21 post: my your
22 post: i'm you are
23 synon: fix mess dilemma fixing
24 synon: service office center
25 synon: sell selling trade
26 synon: help service support advice assistant
27 synon: problem trouble
28 ▼ key: xnone
29 ▼
       decomp: *
30
           reasmb: I do not understand.
31
           reasmb: Please elaborate.
           reasmb: Please hold.
33 ▼ key: hello
           decomp: *
34
35
           reasmb: Hello, I'm a support chat. How can I help you today?
36
           reasmb: Hello, How can I help you today?
37 ▼ key: hi
           decomp: *
38
39
           reasmb: goto hello
40 ▼ key: help
41
       decomp: help
       reasmb: You can start conversation to buying or fixing car by typing "start".
43 ▼ key: start
       decomp: *
       reasmb: goto want
```

```
46 ▼ key: have
            decomp: * have @problem *
            reasmb: Have you tried turning car off and back on ?
            reasmb: How long has (3) been a problem?
50 ▼ key: problem 3
            decomp: *
            reasmb: Have you tried turning car off and back on ?
            reasmb: How long has (3) been a problem?
54 ▼ key: with
        decomp: * @problem with *
        reasmb: When did you first observe (3) to be a problem?
57 ▼ key: because
            decomp: *
            reasmb: Is that the real reason?
60 ▼ key: how
        decomp: * how to *
        reasmb: Please consult the manual for more details.
        decomp: * how long *
        reasmb: It will take a few minutes.
        reasmb: You can start conversation to buying or fixing car by typing "start".
68 ▼ key: chat
        decomp: *
        reasmb: You can start conversation to buying or fixing car by typing "start".
72 ▼ key: yes
            decomp: *
            reasmb: I seem.
            reasmb: I understand.
76 ▼ key: no
        reasmb: Let's try it or come to Carl19 service for support.
80 ▼ key: yesterday
        decomp: *
        reasmb: Okay.Please hold for staff.
83 ▼ key: ago
        decomp: *
        reasmb: Okay. Please hold. I will call the staff.
86 ▼ key: week
        reasmb: Okay. Please hold. I will call the staff.
```

```
90 ▼ key: time
         decomp: *
         reasmb: Working time 08.00am.to 05.00pm.
94 ▼ key: can
         decomp: * can * @fix *
         reasmb: No.I can't but I will call the staff to help you.
         decomp: * can * @help *
         reasmb: Yes, I can How can I help you.
100 ▼ key: want
        decomp: * want to *
102
         reasmb: What would you like to have SUV or Eco car?
103
         decomp: * want suv *
104
         reasmb: That is a good idea. Which color you want?
105
         decomp: * want Eco *
         reasmb: Absolutely! Which color you want?
         decomp: 3
         reasmb: Which service do you need buying or fixing car?
109 ▼ key: sell 5
110
        decomp: *
111
         reasmb: Please go to the service center to evaluate the price.
112 ▼ key: selling 5
113
         decomp: *
114
         reasmb: Please go to the service center to evaluate the price.
115 ▼ key: do 10
116
         decomp: do * @sell *
117
         reasmb: Yes of couse. Car119 service provide a good price for customer .
118
         decomp: do * @fix *
119
         reasmb: Yes of couse. Car119 service provide all service .
120 ▼ key: go 2
121
122
         reasmb: The service center is at the Bangkok or call the staff.
123
124 ▼ key: location 5
125
        decomp: *
         reasmb: The service center is at the Bangkok or call the staff.
126
127
```

```
128 ▼ key: suv
129
130
         reasmb: For SUV now we have red and black color. Which one do you want?
131 ▼ key: eco
        decomp: *
         reasmb: For Eco car now we have only white color.Do you prefer that?
134
135 ▼ key: thanks
         decomp: *
136
         reasmb: You're welcome.
138
139 ▼ key: where
140
         decomp: * where * @service *
         reasmb: The service center is at the Bangkok or call the staff.
144 ▼ key: fixing
         decomp: *
         reasmb: Please consult the manual for more details.
148 ▼ key: fix 5
        decomp: *
149
150
         reasmb: What wrong with you car ?
151
152
153 ▼ key: broke
154
         decomp: * broke
155
         reasmb: How long has (1) been broken?
156
157 ▼ key: broken
158
         decomp: * broken
         reasmb: How long has (1) been broken?
161 ▼ key: red
         decomp: *
         reasmb: Please hold for second. I will send you to next department.
         reasmb: Take a few minutes to next department.
         reasmb: Wait for staff.
167 ▼ key: black
        decomp: *
         reasmb: Please hold for second. I will send you to next department.
         reasmb: Take a few minutes to next department.
170
         reasmb: Wait for staff.
```

```
key: white
174
        decomp: *
         reasmb: Please hold for second. I will send you to next department.
         reasmb: Take a few minutes to next department.
         reasmb: Wait for staff.
179 key: buying
         decomp: * buying *
         reasmb: Apologize for (2) order. Car199 service Now has only SUV and Eco car.
         reasmb: What would you like to have SUV or Eco car?
         reasmb: Car199 service now has SUV and Eco car.
186 key: buying
         decomp: * buying *
         reasmb: Apologize for (2) order. Car199 service Now has only SUV and Eco car.
         reasmb: What would you like to have SUV or Eco car?
         reasmb: Car199 service now has SUV and Eco car.
192 key: service
         decomp: *
         reasmb: Best price guarantee.
         reasmb: Efficient technician.
197 key: call 3
         decomp: *
         reasmb: Please call 02-426-1230..
    key: telephone 4
         decomp: *
         reasmb: Please call 02-426-1230.
```

โดยวิธีการรันจะต้องรันผ่านไฟล์ python

ผ่านการโหลดไฟล์

```
def main():
    eliza = Eliza()
    eliza.load('F:\CPEY.4\TERM2\NLP\HW4\eliza-master\Car.txt')
    eliza.run()
```

2. Screen shots of testing your system (i.e. conversation with your bot)

```
Welcome to Car119 service. I'm a support chat. How can I help you today?
 {
m Hi}
Hello, I'm a support chat. How can I help you today?
I want to go to the service
The service center is at the Bangkok or call the staff.
> How about office time ?
Working time 08.00am. to 05.00pm.
> telephone number ?
Please call 02-426-1230.
thanks you
You're welcome.
Buying new car
Apologize for new car order. Car199 service Now has only SUV and Eco car.
For SUV now we have red and black color. Which one do you want?
red
Please hold for second. I will send you to next department.
> Can you fix my gear ?
What wrong with you car ?
my gear has broken
How long has your gear has been broken?
 last week
Okay. Please hold. I will call the staff.
> thanks
You're welcome.
> What is your service ?
Best price guarantee.
 0kay
 do not understand.
 Selling car
Please go to the service center to evaluate the price.
 I want to sell my car
Please go to the service center to evaluate the price.
> Do you mess a car ?
Yes of couse. Carl19 service provide all service .
Do you trade old car to a new car ?
Yes of couse. Carl19 service provide a good price for customer.
> How can I go there ?
The service center is at the Bangkok or call the staff.
Can you fix a carburetor ?
What wrong with you car ?
 cauretor has broke
How long has cauretor has been broken?
> vesterday
```

```
Okay. Please hold for staff.
> I want some Eco car
Which service do you need buying or fixing car?
buying
What would you like to have SUV or Eco car?
For Eco car now we have only white color. Do you prefer that?
 Yes
 seem.
> location
The service center is at the Bangkok or call the staff.
Which service do you need buying or fixing car?
where is the service shop?
The service center is at the Bangkok or call the staff.
> What is your service ?
Efficient technician.
What is your service ?
Best price guarantee.
> thanks
You're welcome.
```