

COGSCI131–Spring 2019 — Homework 3Solutions

Yuchen Zhou, SID 3034489901

1.

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import re
import random
import sys

def strangefood():
    return random.choice(["Tuna Eyeballs", "Surstromming", "Grasshoppers", "Wasp
                          Crackers", "Fried Spider", "
                          Witchetty Grub", "Beondegi", "
                          Escargots    la Bourguignonne"])

def tellmemore():
    return "Tell me more"

def question():
    country=["Chinese", "Japanese", "Korean", "Mexican", "Indian", "Swedish", "
            Norwegian", "French", "English"]
    taste=["spicy", "sweet", "salty", "strong taste"]
    generaltype=["staple food", "noodle", "meat", "seafood", "vegetables"]
    foodlist=["fried rice", "chicken soup",
              "stewed beef", "chicken breast", "dumplings",
              "dough stick", "pasta", "pizza", "hamburger", "fries", "pancake"]
    ques=["What "+random.choice(country)+" food do you like best?",
          "What "+random.choice(country)+" food do you hate most?",
          "What is your opinion on "+random.choice(foodlist)+"?",
          "Do you have any idea on strange "+random.choice(country)+" food?",
          "What kind of "+random.choice(generaltype)+" do you like most?",
          "Do you like "+random.choice(taste)+" food?",
          "Do you like "+strangefood()+"?"]
    return random.choice(ques)

def farewell():
    weather=["raining", "windy", "sunny", "cloudy"]
    fare=["Oops! I have to go now! My plane will take off in thirty minutes!", "
          Oops! Something goes wrong with
          my kids, I have to go now!", "Oops
          ! Someone is waiting for me! Bye
          me friend!" "Can we say goodbye
          now? I am in a hurry!", "Excuse me
          , but I fell a bit ill now...", "
          It's "+random.choice(weather)+"
          outside, let's just enjoy the
          nature. Stay silent man."]

    return random.choice(fare)

def panacea():
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backup=["Yeah!", "Absolutely!", "Definitely!", "That's okay.", "Oho!", "Zzz...",
        "Oops!", "Wow!", "Ah!", "Yipe!", "Got it!", "I do.", "I agree."]

rt=random.choice(backup)
return rt

def chatbot(inp):
    if re.search('thank',inp) or re.match('ty',inp) or re.search('bye',inp) or
        re.search("that"r"all",inp):
        print("Jarvis :: See you! I will miss you!")
        sys.exit()
    elif len(inp)<15 and not re.match("i",inp):
        reply=panacea()+"And "+question()
    elif re.match("what\\?",inp) or re.match("\\?",inp):
        reply="I mean I like it."
    elif re.search("why\\?",inp) or re.search("how\\?",inp):
        guess=" But "+question().lower()
        reply=random.choice(["For some reason I cannot explain.",
                             "Beyond your imagination.])+random.choice(["",
                                                                           guess])
    elif re.match("and you",inp) or (re.match("what",inp) and (re.search("like",
        inp) or re.search("love",inp))):
        if re.search("what (.+?) do",inp):
            keyans=re.search("what (.+?) do",inp).groups()[0]
            reply = "The " + keyans + " I like most is " + strangefood().lower
                () + "."
        else:
            reply="I like "+strangefood()+ "."
    elif (re.search("idea",inp) or re.search("how",inp) or re.search("what",inp
        ) or (re.match("do",inp) and re.
            search("like",inp))) and re.
        search("\\?",inp):
        if re.match("do",inp) and re.search("like",inp):
            key = re.search(r"like (.+)\?", inp).groups()[0]
        elif re.search("what about",inp):
            key = re.search(r"what about (.+)\?", inp).groups()[0]
        elif re.search("how about",inp):
            key = re.search(r"how about (.+)\?", inp).groups()[0]
        elif re.search("do you think of", inp):
            key = re.search(r"think of (.+)\?", inp).groups()[0]
        elif re.search("opinion on", inp) and re.search("\\?", inp):
            key = re.search(r"opinion on (.+)\?", inp).groups()[0]
        elif re.search("idea",inp) and re.search("\\?", inp):
            key=re.search(r"idea (.+) (.+)\?",inp).groups()[1]
        else:
            key="it"
        if not key:
            reply=panacea()
        else:
            likedic=["I really like "+key+".",
                    "I love "+key+".",
                    "I used to love "+key+", but I do not like it now.",
                    ""]
            reply=random.choice(likedic)
    elif (re.search("i like",inp) or re.search("i love",inp)) and not (re.
        search("\\?",inp)):
        if re.search("i like ",inp):
            likekey=re.search("i like (.+)\.",inp).groups()[0]
        else:

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        likekey=re.search("i love (.+).",inp).groups()[0]
        likereply=[tellmemore()+" about "+likekey+"!",
                    "I love "+likekey+" too!",
                    "What a incidence! I love it too!",
                    "Why do you love "+likekey+"?"]
        reply=random.choice(likereply)
    elif re.search("think",inp) or re.search("assume",inp) or re.search("
        suppose",inp):
        reply="Why think so?"
    elif (re.search("n't",inp) or re.search("hate",inp)) and not re.search("\?"
        ,inp):
        inp1 = inp.replace("my ", "your ")
        inp2 = inp1.replace("i ", "you ")
        famlist=["mom","dad","grandmother","sister","brother","daughter","son"]
        if re.search("hate ",inp2):
            keykey = re.search(r"hate (.+).", inp2).groups()[0]
        if re.search("hates ",inp2):
            keykey = re.search(r"hates (.+).", inp2).groups()[0]
        if re.search("n't ",inp2):
            keykey = re.search(r"n't (.+?) (.+).", inp2).groups()[1]
        reply1="What a coincidence! My "+random.choice(famlist)+"\
            " doesn't enjoy "+keykey+" too!"
        reply2="I am really sorry to hear that "+inp2+" Tell me why!"
        reply3="Why not "+keykey+"?"
        reply=random.choice([reply1,reply2,reply3])
    else:
        rand=random.random()
        if rand>0.6:
            reply=panacea()+" "+random.choice(["Hmmm... "+question(),"And "+
                question().lower()])
        elif rand<=0.6 and rand>=0.5:
            reply=tellmemore()+"!"
        elif rand<0.10:
            reply=farewell()
        else:
            reply=panacea()

    print("Jarvis :: "+reply)

print("Jarvis :: Morning, Tony.")
inp=input("Tony :: ").lower()

while not (re.search('hello',inp) or re.search('hi',inp) or re.search('morning'
    ,inp)):
    chatbot(inp)
    inp=input("Tony :: ").lower()

if re.search('hello',inp) or re.search('hi',inp) or re.search('morning',inp):
    print("Jarvis :: Do you enjoy food?")

while 1==1:
    inp=input("Tony :: ").lower()
    chatbot(inp)

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2. I talk with Jarvis

Jarvis :: Morning, Tony.
Tony :: Morning, Jarvis.
Jarvis :: Do you enjoy food?
Tony :: Of course!
Jarvis :: Ah!And What Swedish food do you like best?
Tony :: meatballs I think.
Jarvis :: Why think so?
Tony :: It's tasty and good looking.
Jarvis :: Tell me more!
Tony :: My mom used to cook meatballs for me when I was a little boy.
Jarvis :: I agree. Hmmm... Do you like Grasshoppers?
Tony :: No! No one would enjoy it right?
Jarvis :: Wow!
Tony :: What food do you like?
Jarvis :: The food I like most is grasshoppers.
Tony :: That's too bad.
Jarvis :: Ah! Hmmm... Do you have any idea on strange Korean food?
Tony :: No idea.
Jarvis :: Oops!And What kind of staple food do you like most?
Tony :: Rice of course.
Jarvis :: Yeah! And do you have any idea on strange korean food?
Tony :: I say no.
Jarvis :: Definitely!
Tony :: Do you have any idea on noodles?
Jarvis :: I love noodles.
Tony :: Oh that's good. Much better that grasshoppers.
Jarvis :: Oops! I have to go now! My plane will take off in thirty minutes!
Tony :: Oh, see you!
Jarvis :: Yipe!And Do you like Witchetty Grub?
Tony :: No, you have to go now. Bye!
Jarvis :: See you! I will miss you!

3.Roommate talks with Jarvis

Jarvis :: Morning, Tony.

Tony :: i don't like eating food.

Jarvis :: What a coincidence! My son doesn't enjoy eating food too!

Tony :: you are my son.

Jarvis :: Zzz...

Tony :: wake up.

Jarvis :: That's okay.And What Indian food do you like best?

Tony :: i like eating indian man.

Jarvis :: Why do you love eating indian man?

Tony :: they are delicious.

Jarvis :: Wow!

Tony :: wow.

Jarvis :: Yeah!And What kind of meat do you like most?

Tony :: Fujian human.

Jarvis :: I agree.And What Korean food do you hate most?

Tony :: i like them all.

Jarvis :: What a incidence! I love it too!

Tony :: i don't believe you.

Jarvis :: I am really sorry to hear that you don't believe you. Tell me why!

Tony :: robot cannot eat.

Jarvis :: Yeah!

Tony :: so you are lying.

Jarvis :: I agree. Hmmm... What English food do you like best?

Tony :: What about you?

Jarvis :: I used to love you, but I do not like it now.

Tony :: ???

Jarvis :: Ah!And What kind of staple food do you like most?

Tony :: i love rice.

Jarvis :: What a incidence! I love it too!

Tony :: What else do you like?

Jarvis :: The else I like most is witchetty grub.

Tony :: What is that?

Jarvis :: Got it!And What is your opinion on dumplings?

Tony :: Goodbye

Jarvis :: See you! I will miss you!

4. Performance Improvement

I think it's wise to connect my chatbot to the Internet and use Wikipedia to address description about things and update vocabulary library to randomize answers.

Or use a memory to record what is mentioned before when human gives a meaningless answer, ask them about that to start a new topic.

5.Sentence that no chatbot will succeed in

Can you can a can as a canner can can a can?