

Rules for Eliza:

topic: San Diego

1. -> (e.g. bye -> bye, see you later!)
2. -> (e.g. hi -> hello, have you ever been to SD?)
3. Yes -> What did you like most about SD? The beach or the city?
4. No -> Hmm, I highly recommend you go sometime. Well, in general, which do you like more: the beach or the city?
5. ??? -> Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?

single variable:

1. Do you have any <1>-recommendations? -> Yes, I recommend [blah]/No, unfortunately I'm not much of an expert on <1>.
2. What is the <1>-like in San Diego? [weather, night life, food, political climate, etc] -> [blah]/Unfortunately, I'm not too much of an expert on <1>...
3. What is your favorite <1> -> My favorite <1> is [blah]/Unfortunately, I'm not much of an expert on that...
4. Why is <1> your favorite?
5. I like to <1>/Where is a good place to <1> (e.g. surf, eat, hang out, hike, go) -> A good place to <1> is.../Unfortunately, I'm not too much of an expert on that

double variable:

1. <1> love(s) <2> -> Why does your <1> love <2>? San Diego is a great place to explore your interests.
2. My favorites are <1> and <2> -> If you had to choose, out of <1> and <2>, which do you like better?
3. My favorite thing about <1> is <2> -> I love <2> about <1> too.
4. Out of <1> and <2>, which one is better/do you recommend/is your favorite? -> I like <2> because [blah]
5. I want to <1> in the <2> -> San Diego is a great place to <1> in the <2>.

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In [187]: #HELPER
import re

def listmatch(string, searchlist):
    match = False
    for i in range(len(searchlist)):
        if re.match(searchlist[i], string, re.I):
            match = True
            break
    return match

def findwordb4key(keyword, searchphrase):
    splitphrase = re.split(' ', searchphrase)
    for x in range(len(splitphrase)):
        if x!=0 and re.match(keyword, splitphrase[x]):
            word = splitphrase[x-1]
            return word
    return ''

def findwordafterkey(keyword, searchphrase):
    splitphrase = re.split(' ', searchphrase)
    print(splitphrase)
    for x in range(len(splitphrase)):
        if x!=len(splitphrase) and re.match(keyword, splitphrase[x]):
            word = splitphrase[x+1]
            return word
    return ''

def findkey(searchphrase, dictionary):
    for key in dictionary.keys():
        if re.findall(key, searchphrase):
            return key
    return ''

#def response(string):
#function which finds a keyword and responds correctly according to the keyword found

#Lists of hard-coded words
byewords = ['bye', 'bye bye', 'Talk to you later']
hiwords = ['hello', 'hi', 'Hi', 'What's up?']
affirmatives = ['Yes', 'Yeah', 'I have']
negatives = ['No', 'Not really', 'No thanks', 'I haven't', 'I have not']

#Needed dictionaries
favorites = {'restaurant': "Definitely La Especial Del Norte",
            'beach': "Hm, I'd have to say Del Mar at 32nd street",
            'sports team': "Well, you can't call yourself a San Diegan without being a San Diego Padres fan!",
            'cafe': "I personally love Coffee Bean and Tea Leaf",
            'place': "Definitely Powerhouse Park in Del Mar"}

favoritereasonings = {'La Especial Del Norte': "They have the best tortilla soup in town!",
                    'Del Mar at 32nd street': "It is private and quiet and has amazing waves",
                    'San Diego Padres': "San Diegans are very loyal to their hard working team. Petco park is always electric with energy for them!",
                    'Coffee Bean and Tea Leaf': "They have a wide variety of drinks. Plus, it's only local to Southern California",
                    'Powerhouse Park': "Powerhouse Park is perfect for an evening picnic with family and friends."
                    }

thingsinSD = ("weather": "As the saying goes, it's always sunny in San Diego! We do experience a fair amount of foginess due to our closeness to the coast as well.",
            "night life": "Night life in San Diego is fun, yet low-key. There are tons of fun places to go in Downtown, as well as by the coast in Pacific Beach",
            "political climate": "San Diego has a wide range of citizens from very liberal to very conservative. It is a military town so it has traditionally been considered quite conservative, but times are changing with more and more immigrants in the area and with the younger generations."
            )

recommendations = {'restaurant': "Din Tai Pung, La Especial Del Norte, Pho Ca Dao, Tacos el Gordo, or if you're looking for something fancy, Jake's Del Mar is fabulous.",
                    'eat': "Tacos El Gordo, TJ Tacos and The Taco Stand are great for casual dines. If you want something higher end, I recommend Din Tai Pung or Jake's Del Mar.",
                    'hang out': "Powerhouse Park in Del Mar is a lovely hang out spot. It is right on the beach, but is a grassy area ideal for dog walkers and family picnics. It's one of my go-to areas!",
                    'hike': "A classic San Diego hike is up a hill to a rock shaped like a potato chip. Locally, and quite fittingly, it is known as potato chip rock!",
                    'dance': "Any nightclub in the Gaslamp District is fun and great for dancing. However, person ally, I'm a bigger fan of packing up a speaker, some wine, and dancing on the sand."
                    }

i = ""

print("Hi! I'm a Sunny Sandy Eggo Chatbot! Please feel free to ask my any questions about my lovely hometown, sunny San Diego. Whenever you want to leave, just say 'bye!'")
#Chatbot will continue taking input until the user says 'bye'
while True:
    i = input('>>')
    i = i.rstrip(".")
    #Deal with rules which are hardcoded
    #1.BYE -> bye
    if (listmatch(i, byewords)):
        print("Nice chatting with you! : bye")
        break
    #2.HI -> hi
    elif (listmatch(i, hiwords)):
        print("Hello, have you ever been to San Diego?")
        i = input('>>')
    #3.YES (I've been to San Diego)
    if (listmatch(i, affirmatives)):
        print("That's awesome! Feel free to ask me for some recommendations for the next time you go.")
    #4.NO (I've not been to San Diego)
    elif (listmatch(i, negatives)):
        print("Well, you should definitely visit sometime. Feel free to ask me for some recommendations for if you ever visit.")
    else:
        print("Hi, have you ever been to San Diego?")
    #otherwise, use a response depending on the keywords found
    #6.Single Variable Rule- <1> recommendations?
    elif (re.findall('recommendations', i, re.I)):
        word = findkey(i, recommendations)
        if word in recommendations:
            print('My '+ word + ' recommendations are ' + recommendations.get(word))
        else:
            print("Unfortunately I'm not too much of an expert on that...")
    #7.Single Variable Rule- what is the <1> like in SD?
    elif (re.findall('like in San Diego', i, re.I)):
        word = findkey(i, thingsinSD)
        if word in thingsinSD:
            print(thingsinSD.get(word))
        else:
            word = findwordb4key('like', i)
            print("Unfortunately I'm not too much of an expert on the " + word + " here.")
    elif (re.findall('your favorite', i, re.I)):
        #8.Single Variable Rule- what is your favorite <1>?
        if (re.findall('what', i, re.I)):
            word = findkey(i, favorites)
            if word in favorites:
                print(favorites.get(word))
            else:
                print("There are just too many to choose from...you can't make me just pick one!")
    #9.Single Variable Rule-why is <1> your favorite?
    elif (re.findall('why', i, re.I)):
        word = findkey(i, favoritereasonings)
        if word in favoritereasonings:
            print(favoritereasonings.get(word))
        else:
            print("Hmm...I never said that was my favorite.")
    #10.Single Variable Rule - I like to <1>/where is a good place to <1>?
    elif (re.findall('I like', i, re.I) or re.findall('a good place to', i, re.I)):
        word = findkey(i, goodplaces2go4x)
        if word in goodplaces2go4x:
            print(goodplaces2go4x.get(word))
        else:
            print("I don't know too much about that, but I'm sure you can find somewhere great for that on Yelp!")
    #11.Double Variable Rule - <1> love(s) <2>
    elif (re.findall('love', i, re.I)):
        if (re.findall('loves', i, re.I)):
            splitphrase = re.split('loves', i)
            v1 = splitphrase[0]
            v2 = splitphrase[1]
        else:
            splitphrase = re.split('love', i)
            v1 = splitphrase[0]
            v2 = splitphrase[1]
        if re.match('I', v1, re.I):
            print("Why do you love" + v2 + " ?")
        else:
            v1 = re.sub("my", "your", v1)
            print("Why does " + v1 + " love" + v2 + " ? San Diego is an awesome place to explore your interests.")
        i = input('>>')
        print("That's a great reason!")
    elif (re.findall('my favorite', i, re.I)):
        #12.Double Variable Rule- My favorites are <1> and <2>
        if (re.search("my favorites are", i, re.I)):
            i = i.lower()
            subphrase = re.sub("my favorites are", "", i)
            splitphrase = re.split('and', subphrase)
            v1 = splitphrase[0]
            v2 = splitphrase[1]
            print("If you had to choose, out of" + v1 + "and" + v2 + ", which do you like better?")
            i = input('>>')
            print("That's my favorite too!")
        #13.Double Variable Rule- My favorite thing about <1> is <2>
        elif (re.search("my favorite thing about", i, re.I)):
            i = i.lower()
            subphrase = re.sub("my favorite thing about", "", i)
            splitphrase = re.split('is|that|is that', subphrase)
            v1 = splitphrase[0]
            v2 = splitphrase[1]
            print("I love" + v2 + " about" + v1 + "too!")
        else:
            print("Cool! Is there anything else you want to know about San Diego?")
    #14.Double Variable Rule- Out of <1> and <2>, which one is better?
    elif (re.findall('out of', i, re.I)):
        i = i.lower()
        subphrase = re.sub('out of', "", i)
        splitphrase = re.split('and|', subphrase, 2)
        v1 = splitphrase[0]
        v2 = splitphrase[1]
        print("I prefer" + v2 + " over" + v1 + "but both are great!")
    #15.Double Variable Rule- I want to <1> in the <2>
    elif (re.findall('I want to', i, re.I) and re.findall('in the', i, re.I)):
        i = i.lower()
        subphrase = re.sub("I want to", "", i)
        splitphrase = re.split("in", subphrase, 1)
        v1 = splitphrase[0]
        v2 = splitphrase[1]
        print("San Diego is a great place to" + v1 + "in" + v2+"!")
    #5.input that cannot be responded to
    else:
        print("Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?")
}
```

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Hi! I'm a Sunny Sandy Eggo Chatbot! Please feel free to ask my any questions about my lovely hometown, sunny San Diego. Whenever you want to leave, just say 'bye!'
>>Hello
Hello, have you ever been to San Diego?
>>No, I've never been, unfortunately.
Well, you should definitely visit sometime. Feel free to ask me for some recommendations for if you ever visit.
>>Okay! Do you have any restaurant recommendations for when I ever go?
My restaurant recommendations are Din Tai Pung, La Especial Del Norte, Pho Ca Dao, Tacos el Gordo, or if you're looking for something fancy, Jake's Del Mar is fabulous.
>>What about museum recommendations?
My museum recommendations are Balboa Park has plenty of fun museums, including the Fine Arts Museum, Natural History Museum and Museum of Man.
>>And you have to have some good beach recommendations...
My beach recommendations are Del Mar, Solana Beach, Moonlight Beach, Mission Beach, or, if you're looking for a good place to hike, Solana Beach.
>>Cool. What is the weather usually like in San Diego?
As the saying goes, it's always sunny in San Diego! We do experience a fair amount of foginess due to our closeness to the coast as well.
>>I figured. What about the people? What is the political climate like in San Diego?
San Diego has a wide range of citizens from very liberal to very conservative. It is a military town so it has traditionally been considered quite conservative, but times are changing with more and more immigrants in the area and with the younger generations.
>>That's cool. I know this is kind of niche, but do you know a good place to rock climb in San Diego?
I don't know too much about that, but I'm sure you can find somewhere great for that on Yelp!
>>Ok. I also like to hike. Do you have any spots in mind?
Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?
>>Also, I like to hike. Do you have any spots in mind?
A classic San Diego hike is up a hill to a rock shaped like a potato chip. Locally, and quite fittingly, it is known as potato chip rock!
>>Haha, sounds fun! What is your favorite beach?
Hm, I'd have to say Del Mar at 32nd street.
>>Why is Del Mar at 32nd street your favorite?
It is private and quiet and has amazing waves
>>Wow, sounds like everything you'd ever need. What is your favorite restaurant? I'll definitely have to go...
Definitely La Especial Del Norte
>>Why is La Especial Del Norte your favorite?
They have the best tortilla soup in town!
>>My boyfriend loves tortilla soup!
Why does my boyfriend love tortilla soup? San Diego is an awesome place to explore your interests.
>>He loves the flavor
That's a great reason!
>>I agree
Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?
>>Out of the city and the beach, which do you prefer in SD?
I prefer the beach over the city but both are great!
>>I want to sunbathe in the sand!!
San Diego is a great place to sunbathe in the sand!
>>I love to do relaxing activities
Why do you love to do relaxing activities?
>>They are so calming
That's a great reason!
>>My favorites are swimming in the ocean and reading
If you had to choose, out of swimming in the ocean and reading, which do you like better?
>>Probably swimming in the ocean
That's my favorite too!
>>My favorite thing about the ocean is the saltiness of the water.
I love the saltiness of the water about the ocean too!
```

```
-----
KeyboardInterrupt: Traceback (most recent call last)
/opt/anaconda3/lib/python3.7/site-packages/ipykernel/kernelbase.py in _input_request(self, prompt, ident, parent, password)
    884         try:
--> 885             ident, reply = self.session.recv(self.stdin_socket, 0)
    886         except Exception:

/opt/anaconda3/lib/python3.7/site-packages/jupyter_client/session.py in recv(self, socket, mode, content, copy)
    802         try:
--> 803             msg_list = socket.recv_multipart(mode, copy=copy)
    804         except zmq.ZMQError as e:

/opt/anaconda3/lib/python3.7/site-packages/zmq/sugar/socket.py in recv_multipart(self, flags, copy, track)
    474
--> 475         parts = [self.recv(flags, copy=copy, track=track)]
    476         # have first part already, only loop while more to receive

zmq/backend/cython/socket.pyx in zmq.backend.cython.socket.Socket.recv()

zmq/backend/cython/socket.pyx in zmq.backend.cython.socket.Socket.recv()

zmq/backend/cython/socket.pyx in zmq.backend.cython.socket._recv_copy()

/opt/anaconda3/lib/python3.7/site-packages/zmq/backend/cython/checkrc.pxd in zmq.backend.cython.checkrc_check_rc()

KeyboardInterrupt:

During handling of the above exception, another exception occurred:

KeyboardInterrupt: Traceback (most recent call last)
<ipython-input-187-40d283270c58> in <module>
    84 #Chatbot will continue taking input until the user says 'bye'
    85 while True:
--> 86     i = input('>>')
    87     i = i.rstrip(".")
    88     #Deal with rules which are hardcoded

/opt/anaconda3/lib/python3.7/site-packages/ipykernel/kernelbase.py in raw_input(self, prompt)
    858         self._parent.ident
    859         self._parent.header,
--> 860         password=False,
    861     )
    862

/opt/anaconda3/lib/python3.7/site-packages/ipykernel/kernelbase.py in _input_request(self, prompt, ident, parent, password)
    888         except KeyboardInterrupt:
    889             # re-raise KeyboardInterrupt, to truncate traceback
--> 890             raise KeyboardInterrupt
    891         else:
    892             break

KeyboardInterrupt:
```

In []:

```
Hi! I'm a Sunny Sandy Eggo Chatbot! Please feel free to ask my any questions about my lovely hometown, sunny San Diego. Whenever you want to leave, just say 'bye!'
>>What is san diego
Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?
>>What can I do in San Diego
Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?
>>Hi
Hello, have you ever been to San Diego?
>>No but I have been to Oceanside
Well, you should definitely visit sometime. Feel free to ask me for some recommendations for if you ever visit.
>>What are some recommendations?
Unfortunately I'm not too much of an expert on that...
>>What are some food recommendations?
My food recommendations are Mexican food (particularly tacos...), since that's what we're known for. However, there are also a wide variety of delicious Asian restaurants here as well. Hit up Convo Street for the best ramen ever!
>>What is your favorite beach?
Hm, I'd have to say Del Mar at 32nd street
>>Out of beach time and eating time which do you like better?
I prefer eating time which do you like better but both are great!
>>I prefer eating
Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?
>>What is the weather like in San Diego
As the saying goes, it's always sunny in San Diego! We do experience a fair amount of foginess due to our closeness to the coast as well.
>>Wow
Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?
>>What is the political climate like in san diego?
San Diego has a wide range of citizens from very liberal to very conservative. It is a military town so it has traditionally been considered quite conservative, but times are changing with more and more immigrants in the area and with the younger generations.
>>Do you support Bernie Sanders like your creator does?
Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?
>>What is the hiking scene like?
Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?
>>What's a good place to hike?
A classic San Diego hike is up a hill to a rock shaped like a potato chip. Locally, and quite fittingly, it is known as potato chip rock!
>>No way!
Sorry, I don't have a response to that. Is there anything else you want to know about San Diego?
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1. My friend appreciated how specific my answers were and how she was able to gain a lot of understanding. However, it was difficult to access answers because the questions that needed to be asked were really specific.
1. My Eliza would be greatly improved if I could have a sort of syntax structure stored within my program. That way, I could have multiple wordings of the same question trigger the same response, rather than needing a very specific word/word order to gain a response.
2. I'dk about you, but this ok, boomer and cancel culture generation is really hyping me up yet bringin me down.' This sentence uses a lot of slang and modern day expressions, in addition to tech abbreviations (IDK), as well as having a kind of ambiguous general meaning. It would be difficult to encode this in a simple set of rules, but would need a deeper language learning network and access to modern-day slang to parse this out.

In []: