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Rule-Based Chatbots

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Rule-based chatbots are structured as a dialog tree and often use regular expressions to match a user's input to human-like responses. The aim is to simulate the back-and-forth of a real-life conversation, often in a specific context, like telling the user what the weather is like outside. In chatbot design, rule-based chatbots are closed-domain, also called dialog agents, because they are limited to conversations on a specific subject.

Chatbot Intents

In chatbots design, an *intent* is the purpose or category of the user query. The user's utterance gets matched to a chatbot intent. In rule-based chatbots, you can use regular expressions to match a user's statement to a chatbot intent.

```
import re

matching_intents = {'weather_intent':
[r'weather.*on (\w+)']}

def match_reply(self, reply):
  for key, values in
matching_intents.items():
    for regex_pattern in values:
      found_match =
re.match(regex_pattern, reply.lower())
      if found_match and key ==
'weather_intent':
        return
weather_intent(found_match.groups()[0])

  return input("I did not understand you.
Can you please ask your question again?")
```

Chatbot Utterances

In chatbot design, an *utterance* is a statement that the user makes to the chatbot. The chatbot attempts to match the utterance to an intent.

Chatbot Entities

In chatbot design, an *entity* is a value that is parsed from a user utterance and passed for use within the user response.