Chatbots with Personality

Notable Code!

```
#.respond "nice to meet you, <name>"
print("nice to meet you, " + user + ". my name is Tony.")

# sleep for one second
import time
time.sleep(1)

#.what is your favourte book?
print("What is your favourte book?")
```

Import statements are only needed once per file. Put them at the top.

```
  # Make list of comments t  uld be possible answer to reply with
fruits = ["pears", "mang  apples", "orange", "bananas", "blueberries",
  "raseberries"]

  # Choose a res nse randomly from list
import random
random_fruit = random.choice(fruits)

  # Reply with random fruit GroceryChatbot likes
print("Really?! My favorite fruit is " + random_fruit + "!")
```

```
# Greetings Chatbot
# Author: Kitty Cheung
# Date: Jan. 8, 2018

# 1. Say hi, what's your name?
print("Hi, I'm SnootyArtBot. And you are?")
```

Question 1

What are Python **modules** used for?

Question 2

What would this output?

```
print("\"pika\"")
```

Question 3

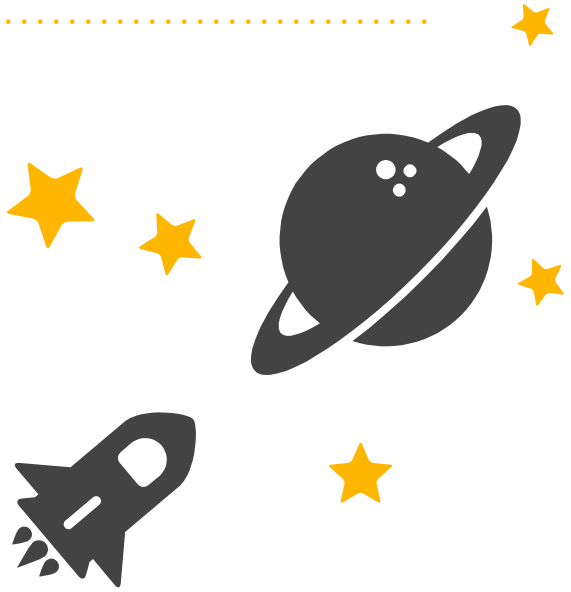
What is wrong with this code?

```
3_wines = ("Bourgogne", "Pinot Noir", "Ice")
```

Question 4

How could this code be improved?

```
favourite_book = input()
print("Oh, that's a nice book!")
```



Branching

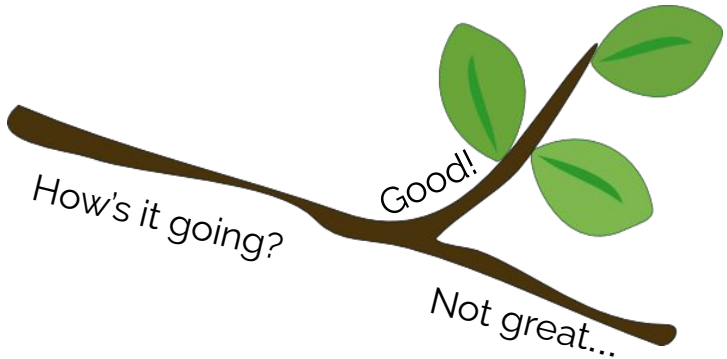
Also known as "conditionals"

http://interactivepython.org/runestone/static/thinkcspy/Selection/ConditionalExecutionBinarySelection.html
http://interactivepython.org/runestone/static/thinkcspy/Selection/OmittingtheelseClauseUnarySelection.html

Branching

Make a chatbot that asks the human how their day is going, and make a comment that changes depending on how they answered.

chatbot



Design your algorithm

```
1   # How's it Going Bot
2   # Author: Angelica Lim
3   # Date: November 29, 2017
4
5   # Description: This bot will ask you how it's going and
6   # make a comment depending on how you answered
7
8   # Ask user how it's going
9
10  # Get the user's reply
11
12  # If they said Good, then reply Good!
13
14  # Otherwise, if they said Bad, then reply Oh no!
```

Translate to Python 3

```
1   # How's it Going Bot
2   # Author: Angelica Lim
3   # Date: November 29, 2017
4
5   # Description: This bot will ask you how it's going and
6   # make a comment depending on how you answered
7
8   # Ask user how it's going
9   print("How's it going?")
10
11  # Get the user's reply
12  reply = input()
13
14  # If they said Good, then reply Good!
15  if reply == "Good":
16    print("Good!")
17
18  # Otherwise, if they said Bad, then reply Oh no!
19  elif reply == "Bad":
20    print("Oh no!")
```

if

elif

Double equals sign!

Note the **colon** and **the invisible indentation (tab)** before print.

Here, everything **indented** immediately after the **if** will run if the user replies "Good".

elif is short for "else if"

Thanks for catching that :)

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16  print("Good!")
17
18  # Otherwise, if they said Bad, then reply Oh no!
19  elif reply == "Bad":
20  print("Oh no!")
21
```

```
Python 3.6.1 (default, Dec 2015, 13:05:11)
[GCC 4.8.2] on linux
>
Traceback (most recent call last):
  File "python", line 16
    print("Good!")
        ^
IndentationError: expected an indented block
>
```

My amazing Python interpreter is checking my code for me. It noticed I forgot the **indentation** before my print statement.

Test how it works

Remember the feature we wanted to make:

It should make a comment depending on how you answered.

```
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8   # Ask user how it's going
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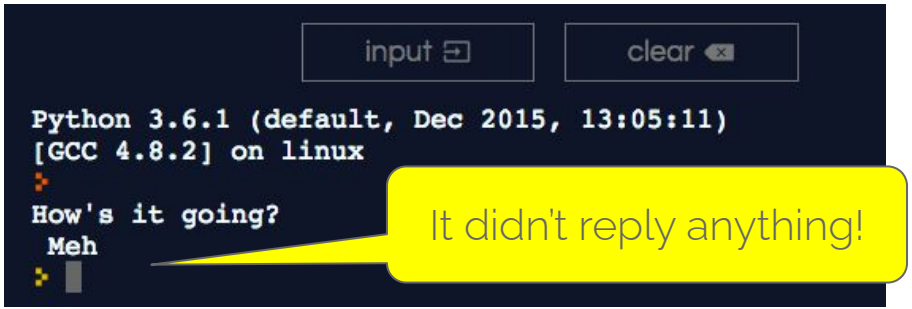

Deploy by sending to others to test for you

Update your algorithm

```
# How's it Going Bot
# Author: Angelica Lim
# Date: November 29, 2017

# Description: This bot will ask you how it's going and
# make a comment depending on how you answered

# Ask user how it's going
print("How's it going?")

# Get the user's reply
reply = input()

# If they said Good, then reply Good!
if reply == "Good":
  print("Good!")

# Otherwise, if they said Bad, then reply Oh no!
elif reply == "Bad":
  print("Oh no!")

# In all other cases, reply "I see..."
```

Translate to Python 3

```
1   # How's it Going Bot
2   # Author: Angelica Lim
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10
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12  reply = input()
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15  if reply == "Good":
16    print("Good!")
17
18  # Otherwise, if they said Bad, then reply Oh no!
19  elif reply == "Bad":
20    print("Oh no!")
21
22  # In all other cases, reply "I see..."
23  else:
24    print("I see...")
```

if

elif

else

The **else** catches all other cases.

Test how it works

```
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22  # In all other cases, reply "I see..."
23  else:
24    print("I see...")
```

Remember the feature we wanted to make:

It should make a comment depending on how you answered.

Now what happens?

Deploy by sending to others to test for you

Now try this

Modify the How's it Going chatbot to use 2 "elif" statements

Compact code

Instead of making tonnes of elif statements, you can also use **or** when necessary.

```
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6  # make a comment depending on how you answered
7
8  # Ask user how it's going
9  print("How's it going?")
10
11 # Get the user's reply
12 reply = input()
13
14 # If they said Good/good/great, then reply Good! What went well?
15 if reply == "Good" or reply == "good" or reply == "great":
16   print("Great!")
17
18 # Otherwise, if they said Bad, then reply Oh no!
19 elif reply == "Bad":
20   print("Oh no!")
21
22 # In all other cases, reply "I see..."
23 else:
24   print("I see...")
25
```

Boolean

True or False

http://interactivepython.org/runestone/static/thinkcspy/Selection/BooleanValuesandBooleanExpressions.html

Boolean expressions

Example of Boolean Expression that can be True or False

```
response == "fine"
```

Note! == is NOT the same as =

```
response == "fine" or response == "good"
```

```
...
```

Chinese Zodiac

Credit: TeachersGem

Compatibility Chart

Rat	Rat, Dragon, Monkey
Ox	Ox, Snake, Rooster
Tiger	Tiger, Dog, Horse
Rabbit	Rabbit, Pig, Goat
Dragon	Dragon, Monkey, Rat
Snake	Snake, Rooster, Ox
Horse	Horse, Dog, Tiger
Goat	Goat, Pig, Rabbit
Monkey	Monkey, Dragon, Rat
Rooster	Rooster, Snake, Ox
Dog	Dog, Tiger, Horse
Pig	Pig, Rabbit, Goat

Source: Wikipedia

Horoscope Bot

Create a horoscope bot that 1) asks what year you are born, and 2) tells you what your chinese zodiac sign is.

											
RAT	OX	TIGER	RABBIT	DRAGON	SNAKE	HORSE	GOAT	MONKEY	ROOSTER	DOG	PIG
1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959

Let's review some concepts

What does a conditional do?

Is the **elif** part of a conditional mandatory?

Is the **else** part of a conditional mandatory?

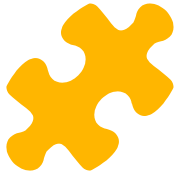
Is the **if** part of a conditional mandatory?

What is wrong with this code fragment?

```
if color = "purple":
    print("Cool!")
```

What values can a Boolean expression produce?

Week 1 Exercise



Chatbot with Personality

Create a chatbot based on the examples in class in http://repl.it. The chatbot should start when you click on the Run button. It should ask at least **3 questions**. It must use **if/elif/else** at least once. It must use an **answer from the user** in its response at least once. Design your algorithm in English first, then translate it to Python code. Test as you go!