1. Create a list called years\_list, starting with the year of your birth, and each year thereafter until the year of your fifth birthday. For example, if you were born in 1980. the list would be years\_list = [1980, 1981, 1982, 1983, 1984, 1985].

Sol:

Python:

birth\_year = 1990

years\_list = list(range(birth\_year, birth\_year + 6))

The resulting `years\_list` will be `[1990, 1991, 1992, 1993, 1994, 1995]`.

2. In which year in years\_list was your third birthday? Remember, you were 0 years of age for your first year.

Sol: Considering that I was born in the year 1990, my third birthday would have occurred in the year 1993. In the `years\_list` generated, the index of the element representing my third birthday would be 3 (since indexing starts at 0), and the corresponding value would be 1993.

3.In the years list, which year were you the oldest?

Sol: If I was born in the year 1990 and the `years\_list` represents the years from my birth until my fifth birthday, then the last element in the `years\_list` would represent the year I turned five. Therefore, the year in which I would be the oldest in the `years\_list` would be the last year in the list, which is 1995.

4. Make a list called things with these three strings as elements: "mozzarella", "cinderella", "salmonella".

Sol: python:

things = ["mozzarella", "cinderella", "salmonella"]

5. Capitalize the element in things that refers to a person and then print the list. Did it change the element in the list?

Sol: python:

things = ["mozzarella", "cinderella", "salmonella"]

things[1] = things[1].capitalize()

print(things)

This code will output:

['mozzarella', 'Cinderella', 'salmonella']

6. Make a surprise list with the elements "Groucho," "Chico," and "Harpo."

Sol: python:

surprise = ["Groucho", "Chico", "Harpo"]

7. Lowercase the last element of the surprise list, reverse it, and then capitalize it.

Sol:python:

surprise[-1] = surprise[-1].lower()

surprise[-1] = surprise[-1][::-1]

surprise[-1] = surprise[-1].capitalize()

8. Make an English-to-French dictionary called e2f and print it. Here are your starter words: dog is chien, cat is chat, and walrus is morse.

Sol: python:

e2f = {

'dog': 'chien',

'cat': 'chat',

'walrus': 'morse'

}

print(e2f)

{'dog': 'chien', 'cat': 'chat', 'walrus': 'morse'}

9. Write the French word for walrus in your three-word dictionary e2f.

Sol: In the `e2f` dictionary, the French word for "walrus" is "morse".

10. Make a French-to-English dictionary called f2e from e2f. Use the items method.

Sol: python:

e2f = {

'dog': 'chien',

'cat': 'chat',

'walrus': 'morse'

}

f2e = {value: key for key, value in e2f.items()}

print(f2e)

{'chien': 'dog', 'chat': 'cat', 'morse': 'walrus'}

11. Print the English version of the French word chien using f2e.

Sol: python:

f2e = {

'chien': 'dog',

'chat': 'cat',

'morse': 'walrus'

}

english\_word = f2e['chien']

print(english\_word)

dog

12. Make and print a set of English words from the keys in e2f.

Sol: python:

e2f = {

'dog': 'chien',

'cat': 'chat',

'walrus': 'morse'

}

english\_words = set(e2f.keys())

print(english\_words)

{'dog', 'cat', 'walrus'}

13. Make a multilevel dictionary called life. Use these strings for the topmost keys: 'animals', 'plants', and 'other'. Make the 'animals' key refer to another dictionary with the keys 'cats', 'octopi', and 'emus'. Make the 'cats' key refer to a list of strings with the values 'Henri', 'Grumpy', and 'Lucy'. Make all the other keys refer to empty dictionaries.

Sol: python:

life = {

'animals': {

'cats': ['Henri', 'Grumpy', 'Lucy'],

'octopi': {},

'emus': {}

},

'plants': {},

'other': {}

}

print(life)

{

'animals': {'cats': ['Henri', 'Grumpy', 'Lucy'], 'octopi': {}, 'emus': {}},

'plants': {},

'other': {}

}

14. Print the top-level keys of life.

Sol: life = {

'animals': {'cats': ['Henri', 'Grumpy', 'Lucy'], 'octopi': {}, 'emus': {}},

'plants': {},

'other': {}

}

top\_level\_keys = life.keys()

print(top\_level\_keys)

dict\_keys(['animals', 'plants', 'other'])

15. Print the keys for life['animals'].

Sol: Python:

life = {

'animals': {'cats': ['Henri', 'Grumpy', 'Lucy'], 'octopi': {}, 'emus': {}},

'plants': {},

'other': {}

}

animal\_keys = life['animals'].keys()

print(animal\_keys)

dict\_keys(['cats', 'octopi', 'emus'])

16. Print the values for life['animals']['cats']

Sol: python:

life = {

'animals': {'cats': ['Henri', 'Grumpy', 'Lucy'], 'octopi': {}, 'emus': {}},

'plants': {},

'other': {}

}

cat\_values = life['animals']['cats']

print(cat\_values)

['Henri', 'Grumpy', 'Lucy']