

Assignment 16 Solutions

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]`.

```
In [2]: years_list = [ele for ele in range(1997,1997+6)]
        print(years_list)
```

```
[1997, 1998, 1999, 2000, 2001, 2002]
```

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

```
In [3]: print(years_list[3])
```

```
2000
```

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

```
In [4]: print(years_list[-1])
```

```
2002
```

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

```
In [5]: things = [ele+'ella' for ele in ['mozzar','cinder','salmon']]
        print(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?

```
In [6]: for ele in range(len(things)):
        if things[ele] == 'cinderella':
            things[ele] = things[ele].capitalize()
        print(things)
```

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

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

```
In [7]: surprise_list = ['Groucho', 'Chico', 'Harpo']
        print(surprise_list)
```

```
['Groucho', 'Chico', 'Harpo']
```

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

```
In [8]: print(surprise_list[-1].lower()[::-1].capitalize())
```

```
Oprah
```

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.

```
In [9]: 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.

```
In [10]: print(e2f.get('walrus'))

morse
```

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

```
In [11]: f2e = dict([ele[::-1] for ele in e2f.items()])
        print(f2e)

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

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

```
In [12]: print(f2e.get('chien'))

dog
```

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

```
In [13]: print(list(e2f.keys()))

['dog', 'cat', 'walrus']
```

13. Make a multilevel dictionary called life. Use these strings for the topmost keys: 'animals', 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.

```
In [14]: 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.

```
In [15]: print(list(life.keys()))
```

```
['animals', 'plants', 'other']
```

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

```
In [16]: print(list(life['animals'].keys()))  
['cats', 'octopi', 'emus']
```

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

```
In [17]: print(life['animals']['cats'])  
['Henri', 'Grumpy', 'Lucy']
```

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