

## 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]`.**

**ANS:**

In [1]:

```
1 years_list = [ele for ele in range(1999,2000+6)]
2 print(years_list)
```

```
[1999, 2000, 2001, 2002, 2003, 2004, 2005]
```

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

**ANS:**

In [2]:

```
1 print(years_list[3])
```

```
2002
```

**3. In the `years_list`, which year were you the oldest?**

**ANS:**

In [3]:

```
1 print(years_list[-1])
```

```
2005
```

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

**ANS:**

In [4]:

```
1 things = ["mozzarella", "cinderella", "salmonella"]
2 things
```

Out[4]:

```
['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?**

ANS:

In [5]:

```
1 for ele in range(len(things)):
2     if things[ele] == 'cinderella':
3         things[ele] = things[ele].capitalize()
4 print(things)
```

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

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

ANS:

In [6]:

```
1 surprise_list = ['Groucho', 'Chico', 'Harpo']
2 print(surprise_list)
```

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

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

ANS:

In [7]:

```
1 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.**

ANS:

In [8]:

```
1 e2f = {'dog': 'chien', 'cat': 'chat', 'walrus': 'morse'}  
2 print(e2f)
```

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

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

ANS:

In [9]:

```
1 e2f['walrus']
```

Out[9]:

```
'morse'
```

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

ANS:

In [10]:

```
1 f2e = {}  
2 for english, french in e2f.items():  
3     f2e[french] = english  
4
```

In [11]:

```
1 f2e
```

Out[11]:

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

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

ANS:

In [12]:

```
1 f2e['chien']
```

Out[12]:

```
'dog'
```

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

ANS:

In [13]:

```
1 set(e2f.keys())
```

Out[13]:

```
{'cat', 'dog', '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.

ANS:

In [14]:

```
1 life = {  
2     'animals': {  
3         'cats': [  
4             'Henri', 'Grumpy', 'Lucy'  
5         ],  
6         'octopi': {},  
7         'emus': {}  
8     },  
9     'plants': {},  
10    'other': {}  
11 }
```

In [15]:

```
1 life
```

Out[15]:

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

## 14. Print the top-level keys of life.

ANS:

In [16]:

```
1 print(list(life.keys()))
```

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

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

ANS:

In [17]:

```
1 print(list(life['animals'].keys()))
```

```
['cats', 'octopi', 'emus']
```

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

ANS:

In [18]:

```
1 print(life['animals']['cats'])
```

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